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Articles

ROYAL NAVAL DENTAL SERVICE UNDER WAR CONDITIONS MEDITERRANEAN STATION

22nd March 1944 – End of War

BY

Surgeon Captain (D) C. J. FINNIGAN, R.N.

I LEFT England to take up the appointment of Fleet Dental Surgeon Mediterranean on 12th March 1944 in U.S.S. *Lyon* (a Landing Ship Tank) to join a fast convoy of similar ships escorted by destroyers and escort vessels. An uneventful passage to Oran on the North African Coast was made. There were a few air and submarine alerts during passage but no enemy action occurred. The most striking thing to the forty Naval Officers taking passage was the unlimited supply and the excellence of the food on board. A welcome change from the rationing and restrictions at home. All naval officers serving, from Commander's rank to Midshipmen and including Lighting Officers and officers were accommodated on a half deck and in equal watches bunks laid out in tiers of three. Five wash basins and one shower bath were put at our disposal but the shower bath operated at only one day of the passage. The American officers however were hospitably treated and some of us were fortunate enough to be made honorary members of their bathing facilities. They also did all they could to make us as comfortable as possible in an American ship. It is noteworthy that this relatively small vessel carried a dental officer and his dental surgery was extremely well furnished and fitted with the most expensive equipment.

On disembarking at Oran we were put on board lorries which transferred us to a siding of a railway station where we stood in the dust beside the rail track for some five hours. A train eventually arrived and the officers were given wooden seated carriages and the men trucks for the journey to Algiers. A passing American officer was persuaded to put some cases of American compo rations on board the train but we failed to procure any water for this

[illegible] journey. We left Oran about 11 p.m. and arrived at Algiers at 7 p.m. [illegible] It was an interesting journey if rather uncomfortable and very cold [illegible] the night. A notable fact was that at way-side stations the Arabs were [illegible] high sums of money for articles of clothing, boots, etc., no matter how ragged they were worn, and several of the ratings had to be restrained from flogging the best part of their kits. It was noticeable too that the local wine had a quick and disastrous effect on those who were unwise enough to drink it freely.

On arrival at Algiers we came under direct control of the Royal Navy and found then that everything was plain sailing: transport and accommodation arranged, and instructions for each officer.

As there was no predecessor in the appointment of Fleet Dental Surgeon on the Staff of the Commander-in-Chief Mediterranean, it was difficult to know where and how to start an organization to control and administer the dental service on the station. The names of the dental officers and their appointments were known but that was all. Lack of staff experience was a *great* handicap. At this time Sicily had been occupied, Italy invaded and the Navy was opening up the ports on the coasts of Italy in the wake of our advancing Armies. It was soon evident that a personal visit by the Fleet Dental Surgeon to all dental centres was of prime importance: to see for himself the conditions prevailing in the ports, the dental facilities afforded and to find out the numbers of naval personnel in each port or location. It was also necessary to know the particular type of equipment and quantity of stores held by each dental officer with a view to future planning and the movement of dental officers to forward ports. These visits of inspection were carried out mostly by air in Transport Command Dakotas. These planes were comfortable enough for short trips but became progressively uncomfortable the longer one had to remain in them. As it was remarked, their aluminium seats were never made to fit the human anatomy. At other times one took passage by sea in destroyers, trawlers, tugs or any vessel which was going in the right direction at the right time. Dental officers, of necessity, seldom have the opportunity of going to sea in small ships so it was gratifying for the Fleet Dental Surgeon to be able to take passage in these small craft from time to time. Journeys were also made by road in staff cars, P.U.s, jeeps, etc., as one could arrange or as the occasion demanded.

Personal visits by the Fleet Dental Surgeon to the different ports, ships and establishments were of inestimable value. Apart from the fact that the Fleet Dental Surgeon got first hand knowledge of conditions he got to know his dental officers and their staffs. Flag Officers and Commanding Officers were called upon at each port. These senior officers were always willing to co-operate and consequently improvements from a dental point of view were made in every port visited. These visits were of great value to the individual dental officers too. They felt that there was someone looking after their particular interests and to whom they could turn for advice or help. Previously they had felt alone and neglected.

An outstanding feature of this period was the help and co-operation of the

Fleet Medical Officer (S[illegible] Captain C B Nich[illegible] R N [illegible] staff and this was reflected in the close liaison between the [illegible] of the Service throughout the Station

During the early part of 1943 the dental departments at [illegible] Station were situated as follows

Gibraltar

North Africa Algiers Bizerta Ferryville

Malta R N Hospital H M S *Medway II* H M S [illegible]

Sicily Augusta

Italy Naples Taranto

Sardinia Maddalena

Levant and Eastern Mediterranean Alexandria (H M S *Vale* 64th General Hospital H M S *Canopus* H M S *Pandemus* H M S *Grebe*)

Beirut Haifa Kabret Massawa Port Said

Mobile Unit for the Western Desert Ports

Sea going ships H M S *Euryalus* H M S *Birmingham* H M S *Blenheim* H M S *Mauritius* H M S *Bugland* H M S *Dunne* H M S *Dunrapoorn*

By the end of 1944 the following additions were made to the Dental facilities on the Station

Algiers Addition of one new surgery and laboratory

Malta New Surgery H M S *Phoenicia* and new surgery at Verdala Cove under construction

Messina Sicily Two new surgeries and laboratory

Naples Two new surgeries

Caserta One new surgery

Taranto New dental centre with two surgeries and laboratory under construction

Bari One new surgery

Leghorn One new surgery and laboratory

Manfredonia One new surgery

Ancona One new surgery and laboratory

Gibraltar Was increased from 3 to 6 dental officers and from [illegible] to 3 dental mechanics

Plan of General Organization

The main problems at this time were the insufficient number of dental officers to meet the commitments a serious lack of equipment and stores and the consequent difficulty in moving dental officers into the newly occupied ports without denuding other parts of all their dental facilities As new ports were opened other parts already occupied may have reduced their numbers somewhat but did not close so soon [illegible] were becoming larger and larger It became a question from time to time of robbing Peter to pay Paul How however our excellent co operation with the Army Dental Corps paid rich dividends Colonel I B Cowie *O B E* D D D S at Allied Force Headquarters

with never failing courtesy was ever willing to come to our aid and [illegible] arrange for his dental officers to look after small naval units when necessities were unable to do so. In addition to this service he issued us with equipment, to surgeries and laboratories and lent us his mobile laboratory on occasion to work with naval units in isolated positions. We in turn of course reciprocated and gave the Army help from time to time. Meanwhile nursing and dental officers, dental mechanics and equipment and stores were on their way from the United Kingdom for the Navy on the Mediterranean Station. The additional dental officers arrived with all dispatch but their equipments came many months after them so we had to continue to beg and borrow and requisition and split up kits between officers so that they could start work without delay. It gives pleasure to record here that the British Red Cross gave us invaluable help at this time in supplying us with surgery equipments such as trolley tables, basins, towels, etc. They could not offer us supply us with our clinical instruments but procured for us almost everything else.

On 30th July, 1944 the Commander in Chief's Staff transferred from Algiers to Allied Force Headquarters at Caserta, Italy. This movement of the Staff was carried out as an operation. Our heavy gear went ahead of us in LST's [illegible] Dental work in our offices in the evening flew next morning in a fleet of [illegible] Naples motored to Caserta and were ready to start work the [illegible] morning. A remarkable performance when one considers the size of the staff and only one day lost in transferring from Africa to Italy.

During the part of 1944 it was evident that there was little or no co-operation [illegible] amongst the dental officers on the Station. They were all [illegible] some trying hard and doing well and others content to accept [illegible] they found them or had offered them. Consequently it was found [illegible] reports existed that strenuous effort had to be made to improve the [illegible] arbitrary dental officers and much time was spent in instructing [illegible] duties principally the inspection of personnel, the keeping of [illegible] the proposal of A.T.O.'s and M.D.C. letters. Most dental officers [illegible] and dental officers on store keeping and particularly the dental officer [illegible] A.T.O. or M.D.C. letter until many months after issue of not all [illegible] the [illegible] in doing to guide them. It must be realized however that it [illegible] for dental officers, especially those going into newly occupied [illegible] the alternative alternative the best recommendation had been taken [illegible] very often unsuitable conditions. And on these occasions [illegible] for himself and it was very unfortunate if he were late and [illegible] This was rectified as far as possible and arrangements made for [illegible] regularly to new parts, even if they went in without their [illegible] and hands on dividends. By going in with the first or second [illegible] the best and equal choice of accommodation and were [illegible] suggestion and office equipment to enhance their mobile units and be ready to start work as soon as the main body arrived or our ships entered harbour. Those dental officers showed that they lacked nothing in keenness and initiative to get what they wanted. It was gratifying too to

know that we were able to offer the other Services dental treatment in the past until such time as their own dental units arrived

The heavy traffic through Gibraltar necessitated a large increase in dental staff and this was accomplished by the end of 1944

In some ports dental officers were so busy with requests for treatment that regular inspections were not possible and in other ports dental departments were situated so far from the dockyard or naval barracks that even made joining routine impossible Orders were issued stressing the necessity for the inspection of personnel and every endeavour was made to see that dental departments were situated inside naval establishments or at least conveniently near to them By the end of 1944 it was noticeable that dental officers even although they were widely separated were working together and passing on from one to another not only individual patients but even lists of inspected ships companies From this time on Medical Officers of ships and the Commanding Officers of the smaller vessels expressed their gratification very often to dental officers personally and in their reports for the inspections carried out and the treatment given to their ships companies

In early 1944 it was noted that ratings recently arrived on the Station from the United Kingdom were generally in an excellent state of dental health and that deterioration varied according to the length of time on the Station It was considered that this deterioration was not due altogether to lack of facilities although they were not comprehensive at this time but largely due to lack of regular inspection The end of the year however saw a considerable improvement which was maintained until the end of hostilities

Much work was also done for Merchant Navy personnel and ex belligerents working with the Royal Navy and there were many expressions of appreciation by officers and men of the Merchant Navy for the work done and the courtesy shown to them by Royal Naval Dental Officers

A high standard of conservative work was maintained and few instances of carelessness or shoddy work were noted It is noteworthy that almost without exception Commanding Officers expressed their satisfaction with the high professional abilities of their dental officers This in itself may not mean a great deal but at the same time the layman is quick to notice any lack of care especially with regard to his own person The general improvement in the dental health of personnel was reflected in the first half of 1945 which showed an increase in the quantity of conservative work but approximately 3 000 fewer extractions were carried out than in the previous six months

During the period under review there was no suggestion of Vincent's disease of the gums (trench mouth) form in any part of establishment The number of cases reported varied between 200 300 per month and were widely spread out over the Station with a tendency for a high percentage to come from small craft (landing craft and trawlers tugs and M L B s)

The quality of prosthetic work produced by our R N Dental Mechanics was generally very good indeed We had however to employ Italian and Palestinian mechanics in some parts owing to lack of British mechanics and the work they produced was poor in comparison A large amount of denture

[illegible] by the Army but by [illegible] 1945 we were still [illegible] [illegible] in this respect. Dental work done for the Navy by the Army April 1944 stood at [illegible] per month. This number [illegible] only by March 1945.

The [illegible] dental problem at the middle ports was always a problem. In early 1941 [illegible] a Mobile Dental Unit was commissioned and did excellent work up and down the Adriatic Coast of Italy. The system of working the unit was that on arrival at a port a dent[illegible] portion of first personnel and also of the pers[illegible] of any ship present was carried out. Treatment was then afforded to officers and men in order of urgency and when the dental officer of the unit considered that all work of an urgent nature had been completed he informed the Chief Dental Surgeon who then considered future movements of the unit.

With the advance of our Armies in April 1945 more ports were captured and occupied. Dental officers went in to Genoa, Zadar and Trieste and later the mobile unit became available and went into Venice. Small naval parties at Marseilles and Toulon were covered by a two months visit by dental officer from Naples.

The occupation of the Greek ports was a problem never satisfactorily solved. At the time of the initial landings there was no dental officer or equipment to spare for the job and the Army undertook to look after the Navy ashore, the Hospital ship *Maine* to look after the Navy otherwise as best she could. Maybe this was just as well for if an R.N. dental officer had been sent to Greece he would have gone to the sick quarters at Piraeus and would have been captured by E.L.A.S. This would have represented a dead loss of a dental officer and equipment, a loss which we could ill afford. The naval parties in Greece were widely spread out and in small groups—10 here, 24 there—the largest party being at Piraeus numbering about 250. A personal visit by D.D.D.S. Army to Greece cleared the fact that the Navy were being looked after adequately by the Army.

Practically all the hospitalization was dealt with by Army authorities so that the majority of maxillo facial cases encountered by R.N. dental officers were given first aid treatment only and then transferred to the Army maxillo facial teams. This also applied to the treatment of oral infections which required hospital treatment. The only naval hospitals in the Mediterranean Command were R.N. Hospital Malta and R.N. Anx. Hospital Alexandria. By 1944–5 Italy was the main centre of operations and the Royal Navy ashore had sick quarters only in each port occupied.

The problems of equipment and stores were in the end satisfactorily worked out and Depots of dental stores were situated at Alexandria, Malta, Algiers, Naples and Taranto and the Senior Naval Pharmacists at these depots did all in their power to ease the situation. Capture of enemy material including a large quantity of dental stores from the German Hospital Ship *Boan* also came in very useful.

Although general knowledge is quite about Allied Force Headquarters, Algiers 1944 and Caserta, Italy 1944–5 may be of interest. The supreme

Allied Commander Field Marshal The Hon Sir Harold Alexander included in his Headquarters the operational Staffs of the Army Royal Navy R.A.F American Army Navy and Air Force and the Dominion and one appendages and dependencies of each Service numbering in all about 20,000 The staff of the Commander-in-Chief Mediterranean Admiral Sir John H D Cunningham K C B M V O numbered about 1,000 including officers W R N S communication ratings cooks stewards etc At Caserta A F H Q was located in The Royal Palace of Caserta about 1 mile outside Caserta Naples The Palace is a magnificent structure of 1,200 rooms enclosing four great courtyards But even this enormous pile could not house all of A F H Q Staff although corridors were transformed into offices and the large rooms contained two or more office staffs a large number of sections had to be accommodated in Caserta itself or in huts built in the grounds of the Palace

Field Marshal Alexander in a special order of the day on 11th April 1945 told us Land Victory is ours He was as good as his word for the German capitulation in Italy came on the 2nd May less than a month after our Armies attacked for the last time We felt positive proof that the first surrender of a German Army had fallen to our Forces in Italy The unconditional surrender was signed by the German Envoys in the Palace of Caserta

And so the closing down of our departments on the Station began It was a sorry business breaking down all which we had gone to so much trouble to build up Orders were issued to all dental officers regarding the disposal of stores and as each port failed so the dental staffs were withdrawn some for dispersal to the United Kingdom some to relieve officers who had done their time on the Station and some to Malta the main dispersal centre to compete with the large numbers of naval personnel passing through the Island on the way home This transition period of reductions and releases from the Service was a trying one for everybody and although it was difficult to keep up the flow of regular treatment there was no neglect of essential work Naturally it may be supposed most temporary officers and hostilities only ratings gave more thought at this time to their future in civil life than to the service but as reductions were fast and releases from the station up to late November was received that officers and ratings were returned unnecessarily on the Station and all would appear to have left the Mediterranean Command with some regret

On average the dental personnel on the Mediterranean Station were as follows Surgeon Captain (D) 1 Surgeon Commanders (D) R N 4 Surgeon Lieut Commdrs (D) R N 4 Surgeon Lieut Commdrs (D) R N V R 4 Surgeon Lieuts (D) R N V R 34 Dental Mechanics 14 Dental Attendants (S B P O (D) S B A (D)) 57

It was a great personal satisfaction to the Fleet Dental Surgeon to have such a fine team of dental officers on the station and it was gratifying to hear Flag and Commanding Officers speak highly of almost every individual dental officer In each port visited dental officers and their staffs were found to be working well and keenly and taking an active part in the social life and sport of their establishments or ships The welfare of the patients always came first and even under sanctions most trying conditions the dental officers always

[illegible]

[illegible] of the wounded. [illegible] and the use of [illegible] at one time [illegible] and always [illegible] necessary to effect ultimate [illegible].

The Chief Consulting Surgeon on his [illegible] of inspection [illegible] the devastated towns and villages of South [illegible] Italy. [illegible] beyond description and in many a town such as Cassino [illegible] a heap of rubble. In Cassino itself there was [illegible]. The Italian people were still clinging to their [illegible] villages and making pitiable attempts to live in wrecked houses [illegible] and corrugated iron as roofing. It made one truly thankful [illegible] army never set foot on the shores of Great Britain.

BURNS FROM ATOMIC BOMBS

BY

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Late Major R.A.M.C.

AND

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INTRODUCTION

The advent of atomic warfare has led to extensive research on the effects of gamma radiation on the human body and this line of investigation was pursued for some time to the relative exclusion of research and thought on the other effects of atomic bombing. This paper presents another aspect of atomic warfare, that of the burned casualties following an atomic bomb attack. It is hoped to bring the problems posed by these casualties into true perspective when considered together with the effects of gamma radiation.

Anyone who has read the accounts of the happenings at Hiroshima cannot fail to be aware that there were very many burned casualties [1]. Authoritative figures quote 100 000 survivors of whom some 60 per cent were burned. *The Times* of 19th October 1949 gave the following figures for burned and gamma radiation casualties to be expected from an atomic bomb comparable to the one used at Hiroshima. Up to 880 yards from the point of explosion all exposed people would be killed by gamma rays. At 1 340 yards half would survive and at 3 140 yards there would be no gamma radiation casualties. Exposed skin on the other hand would be very severely burned at 1 500 yards from the bomb and slightly burned as far away as 4 440 yards.

Suppose, for the sake of simplicity, that everyone within 1 000 yards of an atomic bomb explosion were killed outright. This would involve an area

[illegible] Suppose the [illegible] crevasse from [illegible] radiation casualty [illegible] the [illegible] would be roughly [illegible] square miles. Finally [illegible] square miles. If the annulus [illegible] would be [illegible] square miles. Thus if the [illegible] bomb were evenly distributed there would [illegible] one gamma radiation casualty. Calculations [illegible] and specifications omitted here.

BURNS

[illegible] the pathology and clinical features of burns [illegible] completeness.

[illegible] recognized depending on the thickness [illegible] burn is defined as one characterized by redness [illegible] to the epithelium. A second degree burn [illegible] but not all skin layers. A third [illegible] has been destruction of the whole skin.

[illegible] with the following factors.

[illegible] with flushing. As described in [illegible] it was [illegible] and was a potent cause of pain [illegible] with the onset of erythema and presumably [illegible] of histamine and other vasodilator substances in the skin. Antihistamine drugs may prove to be of value in alleviating this burning pain. However morphia is indicated in all severe burns.

Infection. Burn treatment should be directed towards preventing infection to allow normal healing to take place [2]. To this end burns are usually cleaned with CTAB or other suitable detergent and an anti bacterial barrier added in the form of penicillin and/or sulphonamide cream [3]. To exclude further contamination gauze, cotton wool and bandages (preferably crepe) are applied with full aseptic precautions. These dressing procedures must be carried out in bacteria free air achieved either by air conditioning or by a local circulation of fresh air through the dressing station [4]. Such dressings need replacement every seven to ten days unless they work loose [5] or there is further systemic evidence of infection. The first bandage may also have the effect of limiting fluid loss if applied firmly [6].

Fluid loss. With second and third degree burns, oedema and blister fluid collect at the burned site and the circulating plasma volume is consequently reduced. When less than 10 per cent of the body surface is burned serious haemoconcentration can usually be averted by forcing fluids orally, up to 10 pints a day for the first forty-eight hours. In second and third degree burns [illegible] 10 per cent of the body surface oral therapy is not well tolerated, nor is sufficient to prevent haemoconcentration and shock, and the fluid loss must be replaced by intravenous infusions of plasma or Dextran [7]. [illegible] per cent body burned in the first twelve hours. This procedure is best [illegible] by clinical observations augmented by four hourly haematocrit determinations. The infusion should maintain a hematocrit of 40-45. When

such laboratory determinations are impractical clinical examination for steady pulse and blood pressure mental state and at first warm extremities must form the main guide as to the adequacy of transfusion A urine output of at least 25 c c per hour is to be expected when giving plasma in adequate quantities but this may not be a reliable index with Dextran preparations of low molecular weight which act as diuretics Infusions are rarely needed after the first forty eight hours

Skin loss Plastic surgery is necessary for all third degree burns usually after three or four weeks to prevent scarring to exclude infection and to hasten healing

(iii) *Healing*—The times taken by the various degrees of burning to heal have been derived from the M R C Burns Unit at the Birmingham Accident Hospital [8] who have done invaluable research on the problems of burn treatment and without whose help much of this analysis would have been impossible

First degree burns heal in minutes to hours At worst they take a day to two e g bad non vascular sunburn

Second degree burns—if shallow so called shallow partial skin-loss take seven to fourteen days if deep so called deep partial skin loss take twenty eight days

Third degree burns which need extensive surgery physiotherapy and rehabilitation take months or years of treatment to heal e g burned Battle of Britain pilots

These figures refer to uninfected burns It must be emphasized that infection can delay healing by up to ten times the normal period

Finally there is not as yet any evidence that flash burns will need different treatment or that they will take different times to heal than the more familiar contact and flame burns though research may show difference in their plasma requirements

The Atomic Bomb

The explosion of an atomic bomb causes an instantaneous release of enormous amounts of energy raising the temperature at the point of explosion to several million degrees Centigrade The flash resulting which lasts for a fraction of a second has been estimated as 10^{13} candle power and at Bikini the illumination at 1 000 yards was 2 000 times as bright as the sun A wave of radiant heat lasting a second or two follows with energy in the ultra violet visible and infra red parts of the spectrum [9]

(1) *Types of Burn*—Following this explosion thermal injuries can be caused by

(a) Flashburning of the exposed skin

(b) Burns from clothing either heated by the flash and making contact with the skin or through the clothing being ignited

(c) Secondary burns inflicted during escape from burning buildings etc

These types of burn are considered separately below

Flashburns of exposed skin would be due to the visible radiation (of which

50 per cent is reflected) and the infra red radiation (which is mostly absorbed) directly heating the skin Ultra violet light might possibly have some additional photochemical effect These burns by definition would be limited to exposed skin chiefly hands and faces and legs in women These burns could be first second or third degree depending mainly upon the range of the casualty from the bomb

Burns from contact with hot clothing would result at shorter ranges The severity would depend upon the material used A thick white material would obviously protect better than a thin black one the story of the Japanese girl who was buried in areas corresponding to the dark pattern on her white dress is well known The location of such burns would be those areas where the clothing touches the skin for example shoulders knees and trunk They may be of any depth Such burns would be harder to cover than flashburns as they would be more extensive and in awkward places for handaging

Burns from ignited clothing Experience shows that burns from ignited clothing are always severe and extensive [8] The heat flash from the bomb would instantly ignite a large area of clothing if it were inflammable and so cause severe third degree flame burns over a large body area In this connexion it is noteworthy that cotton is extremely inflammable and that thin cotton dresses and bare legs are almost universal female summer fashions

Secondary burns would be caused by burning buildings in the same way as burns inflicted by any outbreak of fire The fire storm at Hamburg during World War II was responsible for some 300 000 deaths

(2) *Numbers of Burns*—In the introduction to this paper it was suggested that 4 000 yards be taken as the limit of second degree burns and that 1 320 yards be taken as the limit for fatal gamma radiation casualties In the intervening annulus some 3 000 yards wide there would be many survivors with burns roughly in the proportion of 13 burns to each gamma radiation casualty

A suitable military target for an atomic bomb attack would be a concentration of troops in a bridgehead or massing for an attack in the field as occurred for instance at Nijmegen in World War II Suppose troops were distributed 1 700 per sq mile An atomic bomb attack on this force unwarned and without special protection but wearing non inflammable clothing such as battledress could result in some 25 000 survivors with flashburns About 1 000 persons in the central zone would probably escape death but suffer secondary burns Of course these figures ignore screening by trees vehicles etc but even half as many burns for each atomic attack would be an enormous medical burden Nevertheless burns in numbers of this order would result from atomic attacks unless defensive action were taken through air raid warnings and personal protection Furthermore it must be borne in mind that atomic weapons might be more powerful and might be used in large numbers simultaneously

(3) *Defensive Measures* Personal protection—from what has been said it is obvious that every possible protective measure must be employed against burning injury from atomic bombs and the following points are worthy of

discussion. Buildings, of course, provide complete protection against thermal radiation unless themselves ignited but protection in shelters will not be considered here. For the individual who is likely to be outdoors in an atomic bomb attack it is obvious that he or she should wear non-inflammable clothing. The ideal material would be highly reflective of high specific heat and poor conductivity. As far as is known the most practicable material is wool and it is encouraging that battledress serge is non-inflammable. On the other hand cotton, rayon, gaberdine, all materials which are used in the manufacture of clothing, are all highly inflammable and therefore extremely dangerous; further no satisfactory flame proofing of these otherwise very desirable materials has yet been developed. For the protection of the exposed skin there is little to suggest. Topical application of cream as a prophylaxis is unlikely to be of any great value. There is much to be said for women wearing trousers and so covering their legs. It may be possible to wear stout gloves at all dangerous times to protect the hands, and for the face the wider the brim of the hat or helmet the greater the shadow cast and the greater the area of skin protected.

Economics of Thermal Casualties from Atomic Bomb Attacks

The economic problem of large numbers of burned casualties would have to be faced in an additive way after each atomic bomb attack is over. It is here considered from two different viewpoints, firstly the effect of each attack on the community as a whole and secondly the burden to be borne by the medical and nursing services.

(1) *The Economic Effect on the Community*

Several factors are here relevant.

(a) Burns take a long time to heal. Some idea of the shortest healing times for the various sorts of thermal injury can be calculated from published data [8].

Flame burns need some seventy days hospital treatment. These injuries are here taken as roughly equivalent to secondary burns from atomic bomb attacks.

Scalds need some thirty days of hospital treatment. These injuries are here taken as roughly equivalent to flashburns from atomic bomb attacks.

(b) The average cost of treatment of a burned patient at the time of the above study was excluding doctor's time £10 per week. The average weekly wage of hospital workers at that time was about £5. Therefore while in hospital every burned patient economically balances the labour of two people.

(c) The presence of infection delays healing and greatly extends the duration of hospital treatment. An untreated burn can take up to ten times as long to heal as the figures quoted above, and a burn infected but then adequately treated may take two to five times as long to heal as the figures quoted.

These facts and figures can be set against those given for the hypothetical attack on soldiers in the field.

The 25 000 flashburns would ideally need an average of thirty days in

hospital At present however they could not be handled with anything like the efficiency of a research unit and we have allowed for a delay in healing of two to five times the normal since these casualties would inevitably become infected Furthermore most of the cases would have injured hands and this together with their general unsanitary state seems to validate the need of two attendants for each burn

Each of the 1 000 secondary burns would ideally need some seventy days in hospital However they are more likely to suffer infection during their escape and through this and lack of adequate facilities they too would have extended healing times and need the efforts of two other persons to tend each of them

Multiplying up these figures we may derive some measure of the economic cost of mass burn casualties to the community in terms of man days, as follows

Number of casualties × ideal number of hospital days × delay due to inefficiencies × number of people involved (patient and two others) or

$$25\,000 \times 30 \times (2-5) \times 3 = 5\,000\,000 \text{ man days at the lowest}$$

$$1\,000 \times 70 \times (2-5) \times 3 = 12\,500\,000 \text{ man days as the highest cost to the community}$$

If suitable defence could be organized this cost could be reduced If good anti infection treatment could be brought to these casualties immediately the delay in healing could be eliminated and the figure for loss would be reduced to 2 500 000 man days With suitable protection of the exposed hands it might be possible to bring the figure down to 1 000 000 man days Both these reductions in economic burden per atomic bomb attack could be achieved by planning and awareness of the problem efficient preparation could hardly pay higher dividends than here

These figures are obviously very crude guesses and despite more powerful weapons they may be too high It must be remembered however that the healing times quoted here were obtained from a very specialized unit working under peacetime conditions and that no account has been taken of the long-term effects on the casualties rehabilitation out of the effects of disrupted essential services (water gas electricity) which would follow a severe bombing attack Nor have the delays in healing of burns complicated by sublethal doses of gamma radiation been taken into consideration

As more information is released about the effects of atomic weapons more accurate assessments of casualties and the economic burden they impose can of course, be presented

(c) *The Medical and Nursing Problems of Mass Burn Catastrophes*

In 1942 a fire broke out at the Cocoanut Grove night club in Boston 1 5 A and 81 burned casualties survived This disaster completely disrupted the city s hospital services working under more or less ordinary conditions [10]

The time taken to dress burns by present day methods is considerable and the problem of handaging atomic bomb burn casualties will be considered here by arbitrarily dividing the 1 520 4 000 yard annulus where burns would occur into three zones

(*a*) Zone A In this outermost zone the casualties would mainly suffer burns of hands and faces and perhaps legs in women After their first dressing these burns would need nursing rather than medical care and could be treated as out patients once their wounds were properly covered The times taken to do these initial dressings have been worked out by studies made at Birmingham by the Time and Motion Section of the Army Operational Research Group

The table below is an example showing how long it takes to dress *one hand*

Procedure	*Number of people involved*	*Time taken in minutes*	*Total time in man minutes*
Remove clothes etc examining cleansing	3	8½	25½
Penicillin or other cream	3	1	3
Gauze	3	1	3
Pressure dressing and bandage	3	3	9
Change over time between patients restock trolley etc	3	3¾	11¼

Total time in man minutes to dress one hand = 51¾ mins

This means that one team of three skilled persons (one doctor two nurses) using present day methods and working continuously could only treat 50 pairs of burned hands in the first twenty four hours the period in which early efficient treatment can save so much time later on by excluding infection

The time taken to apply cream or spray penicillin to a burned face every twelve hours for fourteen days is 336 man minutes The total time to treat one flashburn patient with injured hands and face over a period of a month when healing should be complete has been calculated as 12 to 13 medical man-hours

When such figures are applied to a mass burn catastrophe it is obvious that there is a great need for improvement in methods and techniques of routine burn dressings if the medical services are to be ready to deal with thousands of casualties Time and Motion studies should lead to the most efficient method of employing available man power Research is required to explore the possibility of using one piece dressings for hands which can be applied like a glove or any other new approach which can save time in treatment In this connexion it has been found that open forms of treatment with exposed and immobilized burns do *not* save manpower as the patients are able to do so little for themselves

(*b*) Zone B In the next zone towards the hypocentre casualties would suffer third degree burns to exposed skin and contact burns through clothing depending in severity on the type of clothing worn Most of these casualties would need admission to hospital and constant nursing attention While flashburns of the hands and face alone would not require plasma infusions these might be necessary with some of the more extensive contact burns

(*c*) Zone C In this innermost zone for survival casualties would suffer extensive contact burns through their clothing involving up to 25 per cent of their body surface and their condition would also be complicated by sub

lethal dose of gamma radiation All these casualties would need hospital attention and burned the area burned immediate transfusion to combat shock Based on careful clinical observations and haematocrit estimations to control their transfusions, such casualties would require extensive plastic surgery later on and protracted physiotherapy and rehabilitation

Zone A would be larger than B and B larger than C Thus the largest single group of casualties would be second degree burns of the hands and face which persons if properly treated could be completely cured Once infected, a burned hand is liable to become scarred and contracted which permanently prevents a return to full function

Conclusions

(1) It must be emphasized that thermal injuries are only part of the results of atomic warfare although they might be the main immediate medical problem Mass burn catastrophes can of course also follow incendiary attacks or peacetime conflagrations

(2) The problems of atomic bomb burn casualties should be fully appreciated in the lay and military meaning of the word and viewed with grave concern

(3) If there is a threat of atomic warfare adequate plans must be made and adequate measures taken to deal with thermal casualties these measures include facilities for dressing stations (cinemas schools assembly rooms etc) and the provision of vast quantities of equipment bandages and drugs

(4) Adequate personnel must be available to do the dressings Much work could be done by lay persons trained to do one specific task for example spread penicillin cream wind bandages remove clothing etc so leaving the medical staff free for the skilled work of deciding on the depth of burning and necessary treatment for the more seriously injured

(5) Doctors must be trained in the treatment of burns This may sound unnecessary but most medical men have little experience in this field There are many instances of unfortunate therapy for burns for example an extensive burn has been treated with adhesive tape applied directly to the injury This is an extreme example but it indicates the need for teaching If defence organizations can leave the medical profession free to concentrate on the more seriously injured people doctors must understand the treatment of burn shock Further there are not enough trained plastic surgeons in peacetime to meet the very large numbers which would be required after atomic attacks

It would be well to provide a small burns unit in every teaching centre and to ensure that every House Surgeon has seen and preferably performed at least one skin graft during his period of hospital residence [11]

(6) Adequate protection must be provided for those who have a high risk of being directly exposed to an atomic bomb civil defence and ambulance workers soldiers in the field etc and a non inflammable uniform for these people must be regarded as absolutely essential

By bold and imaginative planning and preparations much could be done

[illegible] from thermal [illegible] bomb or incendiary attack [illegible] through prevention [illegible] burned through adequate medical care Hiroshima and Nagasaki remain grim examples of the results of atomic attacks in the absence of such preparations

This paper was originally produced as part of a project on flashburning carried out at the Army Operational Research Group It is a pleasure to acknowledge the continual interest shown and help given by the Scientific Adviser to the Army Council the work was made much easier from all at A O R G especially Mr Hoy the Superintendent and Colonel Mound who provided the Film and Motion figures One of us (W S H B) was in receipt of a grant from the Medical Research Council to whom thanks are due and finally the rest of the section employed on the project Captain Redfearn Lieutenant Naylor and Lieutenant Lipscold of the R A M C and Mr Treadwell and Mr Drake Seager were involved as much as the authors

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THE ASSISTANT SURGEON OF THE *BIRKENHEAD*

BY

Surgeon Captain R W MUSSEN, R N

The loss of the transport ship *Birkenhead* in 1852 is usually regarded as a military tragedy and the association of the Royal Navy with the vessel is often forgotten H M S *Birkenhead* was in fact a ship of the Royal Navy commissioned with naval officers and naval crew for transport duties In 1852 she was required to carry troops to South Africa where the Kaffir War was in progress and where Sir Henry Smith was calling for reinforcements

The *Birkenhead* was a steamship of less than 2 000 tons with a ship's company of 130 and 10 officers these including a Commander in Command, a Master or Navigator and among others an Assistant Surgeon This was William Culhane who had entered the Navy in 1847 and who was about 30 years of age in 1852

The ship sailed from Portsmouth and called at Cork on 17th January 1852, to embark an army draft of about 500 among whom were 25 women and 31 children It seems surprising to us that so many women and children should have accompanied men who were proceeding on active service in a distant country The army draft otherwise consisted of miscellaneous details for different regiments with Colonel Seton in Command and included three Army medical officers two staff surgeons and one assistant surgeon

The ship called at Madeira and Sierra Leone and arrived at Simon's Bay on 23rd February During the month's passage 4 of the 25 women who had embarked at Cork had died 3 in childbirth and one of consumption We can only imagine the condition of the air on the mess decks and living spaces of the ship and it is reasonable to believe that any woman unfortunate enough to deliver a child there was certain to be stricken with puerperal fever with probable fatal results Three births took place so that on arrival at Simon's Bay there were 4 women less and 3 children more than on sailing just over a month previously

After a short stay the ship left Simon's Bay at about 6 p m on 25th February on passage to Algoa Bay (Port Elizabeth) to land the army drafts It seems that both the Commanding Officer and the Master were negligent as neither appeared on deck after 10 o'clock and the course of the ship was kept too close to the land About six hours after sailing in the hours of darkness she struck a rock and started to break up very quickly afterwards

The Captain soon saw that there was no hope of saving the ship and gave orders that the boats should be lowered All the women and children were placed in one of these which was told to get away quickly the other boats filled up with a few men and lay off the sinking ship The Captain then said All those that can swim jump overboard and save yourselves Two Army officers Lieutenant Grandlot and Captain Wright however at once begged the men not to do so as they felt that the boats might be submerged if the men tried to climb into them The army draft was as far as possible fallen in on deck and stayed in this position until the ship broke up

Cullane was a good swimmer and when the poop was level with the sea he decided to make an attempt to save his life He took off all his clothes with the exception of a flannel coat and cap and dived from the aftermost part of the poop noticing as he left the ship that the Captain was clinging to the mizzen rigging At that time he could not see any of the boats but after swimming a mile or more he was picked up by the second gig which had 3 men in it and which was in charge of the Shipwright a man called Nicholls

The other boats had left the scene of the wreck by then and made for the shore which was several miles off Unfortunately landing was particularly difficult as there was considerable weed and driftwood up to four hundred yards from the beach The second gig followed and at daylight after some difficulty was able to land the Assistant Surgeon on Danger Point

He thought that the best thing that he could do was to proceed as quickly as possible to Simon's Bay to report the sinking of the *Birkenhead* and to obtain assistance He managed to procure a horse and by hard riding was

able to get to Cape Town in six hours. In his report to the Senior Naval Officer there, he stated that he was the last person to leave the wreck of H.M.S. *Birkenhead* when she hit on the rock at Danger Point. "The poop was on a level with the sea when I swam from her," he said, "and at that time I did not see any of the boats. I succeeded, after swimming a mile or more, in reaching the second gig, and when I got into her we mustered ten."

In the meantime, while Culhane was getting ashore and proceeding to Cape Town, the *Birkenhead* had broken up rapidly. A schooner had appeared in the early hours of the morning, and had recovered a few men from the after part of the ship, which had remained wedged on the rock for some hours after the remainder had sunk. Others had managed to get ashore in various ways, by swimming or on driftwood. There was a tradition that an Army medical officer, Staff Surgeon Bowen, had escaped from the wreck on a white charger which swam with him to the shore!

In spite of this, there was considerable loss of life, and of the ship's company 87 were lost out of 130, and of the Army Draft 308 out of 508. All the women and children got ashore safely in the first cutter. Culhane was one of the few naval officers who escaped from the ship, the Commanding Officer, the Master, and the two Lieutenants being lost.

The Assistant Surgeon, possibly *faute de mieux*, came in for considerable criticism from various sources. Lieutenant Girardot, who had escaped from the wreck after Culhane, stated: "One of the ship's boats with the Assistant Surgeon of the vessel and eight men, went off and landed fifteen miles down the coast. Had the boat remained about the wreck, or returned after landing, the Assistant Surgeon on Danger Point, I am quite confident that many men of the two hundred who were on the driftwood might have been saved."

The Cape newspaper *Examiner* was much more outspoken, and commenting on the loss of the *Birkenhead*, suggested that Culhane had "achieved notoriety in taking good care of himself." It went on to say: "His object in trotting to Cape Town, he tells the Commodore, was that he might be able to send a steamer to the wreck, and that such also was the object of the eight of boat's crew."

That is, his shipmates were to struggle in the water, floating on driftwood, knocked on the head by spars, bitten by sharks, or sinking from sheer exhaustion, though some of the hundred and fifty of them might have been picked up and rescued by half dozens at a time, with the gig of which this doctor had deprived them. And these men were in their death struggle, while the zealous doctor was trotting a hundred miles across country to inform the Commodore that there were Englishmen drowning, and that it would be well for him to send a steamer out.

England having thus paid the lives of more than a hundred of her bravest sons for the preservation of Mr. Culhane, will no doubt feel bound in honour to take care of a gentleman whose retention in her service cost so large a sum in death, widowhood and orphanage!

Culhane bore up under these unfair and unpleasant attacks, but, as one of the few surviving officers, he was charged at the court-martial held relating

to the subsequent trial *behind* later in the year. Other officers who might have been charged were absent. The Commodore at Cape Town had reported that it did not appear that the Commanding Officer or the Master had attended on deck from 10 o'clock in the first watch until the accident occurred. It could only infer much inattention and extreme neglect of duty on their parts, and when soundings were first struck, had the helm been put to port this ill-fated ship might have escaped the danger. These officers could not be court martialled.

One witness at the court martial, Colour Sergeant Drake, stated that Culhane was in his cabin one minute before the ship went down, and another witness, Shipwright Nicholls, who had got away in the gig, stated that he heard Culhane hail the boats when in the water fifty yards away. He had taken him and two others on to the gig.

The court martial was held at Portsmouth, and after a long sitting, with many witnesses, found that there was no blame in particular to any of the surviving officers and men. It praised the conduct of both naval and military officers and men and stated that there was reason to admire and applaud the steadiness shown by all under the most trying circumstances.

The Times summed up the matter by stating that Culhane's character seemed to have been too hastily aspersed by people at the Cape without making themselves fully acquainted with all the facts and bearings of the case as applied to him. It appears that the great mistake made by Culhane on his return to England was, when stung by the charges made against himself, he made serious counter-allegations against others, which were as groundless as those which had been brought against him.

Culhane continued to serve, and later in 1852 was appointed to another troopship, H.M.S. *Falcon*. He served in her till 1854, when he went to West Africa to serve there in a series of gunboats. He was promoted to Surgeon in 1856, and in 1858 went to East Indies and China in H.M.S. *Chesapeake*. He was eventually invalided home, and died in England in the spring of 1860, a relatively young man, worn out by his experiences and by continuous foreign service in unpleasant climates.

MANILA 1898

BY

Commander (S) C. H. CARROLL, M.R.C.S., L.R.C.P., D.L.O., R.N. (Rtd.)

H.M.S. *Immortalite* (Captain Sir Edward Chichester, Bart.) was ordered to proceed to Manila from Hong Kong to watch British interests during the Spanish-American War taking place in Far Eastern Waters Sector.

We left Hong Kong on 4th May, 1898, arriving in Manila Bay on 8th May, 1898, and remained there until 10th September 1898 being relieved by H.M.S. *Powerful*. Manila in those days was being blockaded by the U.S. Fleet which just previous to our arrival had destroyed the Spanish Fleet in Manila

B[illegible] thoodless victim for Commodore Dewey U S Navy. He w[illegible] Admiral for his successful elimination of the Spanish Fleet

Leave to officers was given during our stay in Manila Bay and one had many opportunities of visiting various places of interest in the City and also playing an occasional cricket match against local British residents

Present in Manila Bay were various units of German French and Japanese Fleets The Germans in particular causing no small annoyance to Admiral Dewey by playing their searchlights on the U S Fleet anchored off Cavite at the southern end of Manila Bay This flagrant breach of conduct on the part of a neutral power against the U S Fleet which was blockading the Bay and Manila was brought to a climax when the U S S *Hugh McCulloch* fired a salvo across the bows of a German cruiser who was entering the Bay without necessary authority The Captain of the German cruiser made an indignant protest and tried to get Captain Chichester to back him up however, all he got from our skipper was a very large raspberry' and so went off with his tail between his legs

The youngsters in the gunroom used to wander about Manila—going up the River Pasig by native canoe and paying occasional visits to the Country Club at Ermita on the outskirts of the town where a decent meal and necessary drinks were obtainable in keeping with Gunroom Officers' pay

On Sunday 17th August Admiral Dewey sent in an ultimatum to the Spanish Governor of Manila for the surrender of the town This was rejected and further appeals being also turned away the U S Fleet got under way in the early hours of the morning of 13th August and steamed across from Cavite towards Manila

At 9 42 a m the U S Flagship *Olympia* opened fire with her two foremost 8 in guns but was considerably off the mark falling short the U S S *Calloa* and *Petrel* closed the range without very much success This desultory gunfire was being directed against Fort Malate at the southernmost outskirts of town

U S troops the Oregon Regiment had been landed near the perimeter of the Fort (in a position recently vacated by the Filipino rebels under Aguinaldo and who used nightly to keep up the show by wild shooting at the Spaniards) took the place without much opposition The U S Fleet in the meantime had ceased fire but reopened the engagement in the afternoon against Luneta Battery—2½ miles from Malate Fort without much apparent damage being done

The Spanish Governor in the afternoon requested a parley and eventually surrendered and at 5 45 p m on 13th August the American Flag was hoisted at Manila so ended a somewhat farcical bombardment with little or no damage to the City itself We in the ship were of the opinion that the Yankees were just scaring the pants off the Spaniards and their efforts were apparently successful

Our shore leave was more interesting and freer now that the place had surrendered and Manila was swarming with U S troops and disarmed Spanish soldiers loafing about aimlessly

We were not sorry to return to Hong Kong on 10th September after a four months visit to Manila which was of exceptional interest in many ways.

Our Staff Surgeon Herbert Canton was one of the few Naval Medical Officers who was a qualified dental surgeon as well; our surgeon F. T. Jeans was later Surgeon Captain R.N. Hospital Plymouth and it was he that first interested me in medicine which profession I eventually entered in 1913 on being invalided from the Royal Navy.

MEASUREMENT OF THE ARM AS A METHOD OF STANDARDIZING CHEST RADIOGRAPHS

BY

Surgeon Commander JAMES LEES, R.N.

Various aids for assessing the factors to be used in chest radiography have from time to time been evolved, and it is probably fair to say that none has been entirely satisfactory. Any experienced radiographer will trust his eye rather than one of these devices, and will usually produce films of good, even quality, except in the obese or thin subject. The method described below has been tried over a series of approximately 11,000 cases at the time of writing (8,000 full size radiographs and 3,000 miniature fluorographs) and has been found to give better results than the radiographer's eye, especially in the obese or the thin. Whilst no claim is made that the method is infallible, it is claimed that it is more reliable than other methods and that it is applicable irrespective of the sex or build of the patient, giving identically comparable films of any one individual over a period, even though weight has been lost or gained in the interval.

In its essentials, the problem of choosing factors for chest radiography resolves itself into assessment of the thickness of the chest wall. The normal lung tissue, when fully expanded, is so nearly radiotranslucent that its thickness can be ignored. It is obviously impossible to measure the thickness of the chest wall direct, and measurement of the diameter of the chest is not satisfactory as the ratio of relatively opaque chest wall to translucent lung is far from constant. It is, however, simple to measure the circumference of the upper arm, and assuming that measurement of the thickness of one part of the pectoral girdle might give an indication of the thickness of the soft tissues covering another part, it was decided to try experimentally whether some degree of standardization could be achieved by this means.

To this end a series of films were taken at 10 mA/sec. and a tube/film distance of 72 inches. Kilovoltage was assessed by eye and varied according to each patient's build. The circumference of the arm just below the anterior axillary fold was noted for each patient, as was the chest caliper measurement. The resulting films were critically assessed and all but the good quality films disregarded. The arm measurement was plotted against the kilovoltage used and a curve drawn (fig. 1). It was not possible to draw a curve when

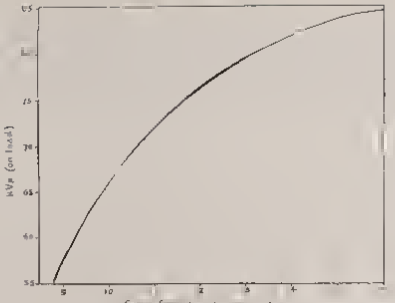

Fig 1

the chest caliper measurement was plotted against kilovoltage. [illegible] arm/kilovoltage curve. A tape measure was made [illegible] The method was then put into general use [illegible] The apparatus was set to 10 mA/sec and the tube at 72 inches. The patient was positioned and the tape measure passed around the arm just below the anterior axillary fold. Kilovoltage was set to the reading given by the tape and the exposure made. The results proved very satisfactory.

Later a similar experiment was made to determine the factors for children and a separate curve was drawn (fig 2). The upper end of the

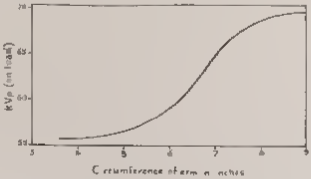

Fig 2

curve for children will be seen to overlap the lower end of the curve for adults. Occasionally it is difficult to know which reading to take. The criterion is not the age of the subject but the general appearance and build. If the subject looks like a child the children's reading should be taken.

[illegible] has been modified for use with the mass miniature fluoro[illegible] (G R [illegible]) Good bright films of even quality have been [illegible] inches and 60 mA/sec using 17 more kilovolts than the tape [illegible] It is preferable to calibrate a separate tape for this work Similar [illegible] of factors can be made to meet the requirements of individual [illegible]

The [illegible] automatically cannot compensate for variations in the electrical [illegible] Where the supply has been steady it has proved valuable It is [illegible] a considerable degree of standardization could be achieved by the use of a photo-electric timing device in conjunction with the method described and some worker with access to such a device might think it worth a trial

SUMMARY

The circumference of the upper arm appears to bear a direct relationship to the thickness of the chest wall in either sex

A method is described of using this measurement as a means of determining the kilovoltage to be used in chest radiography

A possible improvement in the standardization of chest radiography by the use of this method in conjunction with a photo electric timing device is indicated

I would like to thank S B C P O H Morris and S B P O L Garvey, for their enthusiastic co operation and their skill in taking the original experimental radiographs

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SOME RECENT ADVANCES IN DIAGNOSTIC RADIOLOGY

BY

Surgeon Commander G L HARDMAN-R N-

During the past twelve years many advances have been made in diagnostic radiology These have been the result of improvement in equipment material and media and advances in knowledge and techniques The introduction of the rotating anode tube has been the outstanding improvement in equipment By focusing the electron stream on to the circumference of a rotating tungsten disc a large amount of X radiation can be generated from what is in effect a small point of origin about 1 sq mm —thus giving much better detail than was previously obtained with the broad focus stationary anode and also allowing high loading for the short exposure times used in modern chest radiography The motor driven couch is now almost universal It is of use not only for changing the patient from the erect to the horizontal during barium meal examinations but for controlling the flow of the opaque oil in myelography intravenous pyelography and even for positioning the spine when taking a lateral view The split film device enabling the radiologist

[illegible] has been [illegible] some manufacturers [illegible] of a single button will [illegible] over the [illegible] from screening to radiography and [illegible] into the [illegible] machines. Fully electric timing devices have been developed both in this country and the United States. The exposure is cut off automatically when a certain [illegible] of radiation has fallen on the film thus ensuring constant density. The [illegible] particular use in chest work as serial films of different quality may be [illegible] fully due. The timer can be used with mass miniature chest units and all [illegible] units supplied to the Ministry of Health have been so equipped. Not only [illegible] the possibilities of error through the radiographer misjudging the thickness of the patient or wrongly setting the controls eliminated but also the more incalculable factors of voltage fluctuation and frequency variation of the mains supply. For the mobile unit using a doubtful and varying electrical supply the automatic timer is invaluable.

Films have been made faster but with these there is a diminished margin for error and with the increasing power of modern units there is a tendency to revert to the slower type of film with its greater latitude. Barium has remained the medium for opaque meals and enemas but gall bladder investigations are now carried out with a new and more efficient compound Priodax and Diodone a water soluble compound is now widely used for arteriography and hystero salpingography.

Many attempts have been made at cine radiology. As long ago as 1897 within two years of Roentgen's discovery of X rays Macintyre of Glasgow built up a successful motion picture from X rays of a frog's leg in different positions. But for the making of a real as opposed to a synthetic motion film there were not only many mechanical and physical problems to be overcome but excess of radiation to the patient had to be avoided. A solution has come by the photographing of the X ray image off the fluorescent screen and it is now possible using an English apparatus to take 100 frames a second on to a 35 mm film. Cine radiology will be of value for teaching purposes for the investigation of moving organs such as the heart and intestinal tract and also for solving problems in connexion with the fitting of artificial limbs.

Until a few years ago the gastro intestinal examination by barium meal frequently ended at the duodenum or if continued further the interest was limited to the colon the small intestine being almost completely ignored. The latter is now under close observation by radiologists in all countries and special techniques may be used for its examination either a divided meal of barium made up with saline being given by the mouth or the barium being introduced direct into the small intestine through a Miller Abbott tube. The small intestine cinema. These have made possible the demonstration of the folds loops and movements of this previously unexplored ground and have revealed polyps diverticulae and neoplasms changes in sprue vitamin deficiency and tuberculosis. The routine barium enema has been made to give more information by the use of air as a contrast medium and

more recently by introducing a small amount of tannic acid into the bladder to encourage the barium to cling to the mucous folds.

With the introduction of Priodax there has been an improvement in cholecystography and the non filling of a gall bladder can almost invariably be regarded as pathological. The value of the erect position for the demonstration of small calculi is now universally recognized. Arthrography with the injection of either air or a positive contrast medium into the synovial cavities is widely practised in some centres particularly in Scandinavia. The knee and shoulder joints have attracted the most attention. In the former it is possible to demonstrate the cartilages and ligaments by air contrast and see clearly lesions which show no signs on plain radiography.

Recent advances in anaesthesia and surgical technique have made cardiac surgery an effective and relatively safe procedure for certain congenital lesions. This has given considerable impetus to the radiological study of these conditions. Angiocardiography using 35 per cent Diodone is now an essential investigation when the possibility of surgery arises. Up to 20 ml. of Diodone injected as rapidly as possible into a vein in the antecubital space (the arm being to introduce a bolus of the dye into the circulation) a series of films are taken at least eight in twelve seconds, the first before the completion of the injection. The first films of the series, those taken at about four seconds, will show the contrast medium in the right side of the heart and those in the latter part of the series, taken at about eight seconds, will show the medium in the left side and in the aorta and great vessels. The taking of such a series of films demands a highly trained radiographic team or the use of a very elaborate mechanical type of cassette changer. The lesions for which surgery can give relief and in which the greatest radiological interest is at present centred are coarctation, pulmonary stenosis and Fallot's Tetralogy.

Cerebral angiography has become a relatively common procedure in the investigation of intracranial lesions and has partially displaced ventriculography and encephalography, although these have not by any means been entirely superseded. Cerebral angiography has the enormous advantage that it is safe even when there is an raised intracranial pressure and causes the patient little discomfort. It is almost an out patient procedure. If the information which results is inadequate the more formidable ventriculography can be carried out. Injections for angiography are usually made percutaneously into the carotid artery but they can also be made into the vertebral artery. As with angiocardiography great speed and precision is required to radiograph the barium while it is in the cerebral arteries. Two X ray tubes are sometimes used so that lateral and A.P. views can be taken simultaneously. Positive contrast medium is sometimes introduced into the fourth ventricle.

Tomography (planography in layer radiography as it is varyingly known) is a common procedure in almost all X ray departments. Although its most frequent use is the demonstration of cavitation in the lungs it has a wide application for the examination of bone and other structures which are difficult to visualize. For example it has been usual in cholecystography when the gall bladder was obscured by gas shadows which could not

be cleared by rotation or compression. Early tomographic apparatus mostly home constructed enabled the patient to be examined horizontal with resulting horizontal cuts. Adaptation of the apparatus enabled the patient to be erect but with the layers still in the long axis of the body. Recent developments have made it possible to cut a plane at right angles to these horizontal layers with the patient erect.

The principles of mass miniature radiography are too well known to need description. The technique was first developed by De Abreu in Brazil before the war. In this country one of the first successful units was that at Chatham Barracks. Not only has mass radiography opened the door for the control of pulmonary tuberculosis but it may help to elucidate the aetiology of cancer of the lung. In the many cases that have been picked up at routine surveys in this country there has been marked variation in geographical distribution. Many unsuspected congenital heart lesions are found and for these early operation offers the best chance of survival. A recent development of the mass miniature apparatus is the replacement of the camera by a concave mirror focusing the image of the fluorescent screen on to the film. The lens in common use was the f 1.5 although a lens as large as f 0.85 was made for the unit in the mines at Johannesburg. The mirror reflects as much light as would be transmitted by a f 0.75 lens and so by its use there is a very considerable increase in efficiency. The mass miniature units still use a 36 in focal screen distance although all chest radiography is carried out at 5 or 6 feet. This is a curious inconsistency to which a blind eye is turned. The 70 mm film appears to have been adopted as standard by Continental and United States workers.

A technical advance which has not yet been perfected, but on which considerable work is being done is the intensification of the fluorescent screen image. At present the screen image is of such poor luminosity that it can only be seen by the fully accommodated eye and even then not as well as desired. It is not possible to increase the amount of radiation used as the patient is already receiving fully enough. But no doubt the problem will be solved before many years by the use of some electronic method.

When sufficient time has elapsed for the past twelve years to be seen in their true perspective it is more than probable that the development of mass miniature radiography will be considered the outstanding advance of this period. As Dr. Ralston Patterson said in his recent presidential address to the Sixth International Congress it may well rank in medical history with Jenner's discovery of vaccination. Certainly of the radiological discoveries it has been the means of the greatest good to the greatest number.

COMPARISONS OF THE NAVAL, MILITARY, R.A.F. AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

Part VII

BY

Surgeon Captain R. C. MUNDAY, C.B., M.R.C.S., L.R.C.P., R.N. (Rtd.)

I was appointed to H.M.S. *Essex*, a first class cruiser lying alongside with a reduced complement of officers and men undergoing such refitting as would enable her to complete her complement and stores and proceed to sea ready for active service in a few days.

I had now completed sixteen years' service and according to a new Admiralty order was promoted to Surgeon Commander instead of waiting for twenty years for this rank.

It was all very pleasant living at home with my wife and three children, my health completely restored and congenial work to do. When we eventually put to sea for the manœuvres the Captain let me bring my little son to sea with me, much to his delight. His hobby was a study of Jane's *Ships of the Navy*. My messmates were astonished to find that he knew more about the subject than any of us did.

Towards the end of the manœuvres we were engaged in firing blank charges from our 6-in. guns as quickly as possible so that we might be awarded the victory in an action with a hostile fleet. Unfortunately this laudable desire for speedy firing resulted in hasty loading and a charge was inserted before the breech had been sponged; with the result it exploded prematurely. The explosion blew the lieutenant out of the casemate on to the forecastle, blew the loader's arm off at the scapula killing him instantly and severely wounding several men. I was now very busy and sent a message to the Captain recommending that he should request permission to part company with the Fleet and proceed at full speed to Plymouth Hospital. I think this saved the lives of the wounded men and the lieutenant who was suffering from severe concussion.

Shortly after this occurrence we were ordered to turn over to the *Abouki*r, sister ship to the *Sutley* and much speedier, bigger and heavier armed than the *Essex*. We were brought up to full complement of nearly 1,000 officers and men and I had plenty to do and a most excellent surgeon in every way to help me. Soon we were off to the Mediterranean station where the causes of Malta or undulant fever so long obscure had recently been established beyond doubt as due to goat's milk. This resulted in station orders forbidding the supply of fresh milk from the shore. Although there was cow's

milk to be obtained the Maltese dairyman could n t [illegible] n [illegible] supply it unmixed with the more plentiful goat s milk

Unfortunately the Captain was sceptical on the subject and used fresh milk on shore for himself and his wife She was attacked so virulently that she nearly died and had to be sent back to England Even the following year when she came out to us again she had changed from a beautiful healthy young woman to an ethereal being who was easily fatigued

While playing a round of golf I met my dear old Captain late of the *Retribution* and now commanding the *Formidable* one of the finest battle ships of that time He told me his Surgeon Commander had been invalided I at once asked him if he would take me for the vacancy and he was good enough to apply for me Before I was appointed the Admiralty asked the Captain of the *Aboukir* if he had any objection and whether he was satisfied with my conduct He had no objection and gave a flattering account of me

Just before we started on the summer cruise to the East Mediterranean we were joined by a quiet little Major of Marines who was Intelligence Officer on the Commander in Chief's Staff The Captain told me that as he was a Staff Officer with a lot of important office work the Admiral had required that he should be given a cabin of suitable size and so as I was not really entitled to a Staff Officer s cabin I must move out

However when Major Hankey heard of it he firmly declined to turn me out and insisted that the one labelled Fleet Surgeon which was empty would serve his purpose I have never known anyone who worked harder than this man and he combined an enormous capacity for work with a very clever brain and organizing ability It was a delight to listen to his discussion of politics statesmen and great soldiers and sailors past and present It was no surprise to me to find him made Secretary of the War Cabinet and later of the Cabinet as a Peer of the Realm and a very distinguished statesman In spite of the dizzy heights to which he attained he always preserved the same modest kindly attitude towards his old messmate

The most important part of the cruise was a visit paid by the Admiral in his yacht and a few of the officers of the Fleet in the hospital ship up the Dardanelles to Constantinople I was lucky enough to join the party We spent several days exploring the old city its mosques palaces slums and bazaars Dinner with the Sultan was the chief function What struck me most about it were the following incidents (1) The perspiring terror of Turkish statesmen responsible for the organization of the banquet when there was a mysterious hitch causing delay in the reception (2) The official taster of all food offered to the Sultan (3) The official banning of all alcohol to Turkish hosts and their surreptitious evasion of the ban (4) The solid gold plates spoons forks and knife handles

The most excellent dinner was followed by the investiture of all English guests with various Orders The Admiral got a huge star studded with diamonds His wife and daughters were not present but received the Order of Chastity first class and second class respectively On their return to Malta the young ladies were asked by their female friends to explain the second class

Captains received stars of lesser brilliance officers below that rank were issued with a gold medal and ribbon the Order of Liaquat Finding myself next to an old gentleman in the uniform of a Turkish Admiral I endeavoured to discover from him in my best French the meaning of Liaquat He said "Talk English my boy and that medal means competence and capacity" As we had all had a most excellent banquet I felt fully entitled to the latter part of the Order

It appeared that many years ago when this old gentleman had been a Staff Commander he was lent to the Turkish Navy to instruct Turkish midshipmen in navigation and had eventually joined the Turkish Navy

One tragedy marked our visit The Admiral had assigned to him as temporary Flag Lieutenant liaison officer and interpreter a charming young Turk who one day asked the Admiral for twenty four hours leave in which to get married The Admiral congratulated him and complied The Sultan disapproved and the lad disappeared for a few days then his body was found in the Bosphorus

I witnessed the religious ceremony of Salamlik when the Sultan drove in one of a train of resplendent coaches to his mosque He alone knew whether he would go in the first second or third coach Those he did not use were filled with people resembling him It was all very difficult for the would be assassin especially as running alongside the coaches for the whole route were numbers of stout courtiers

The next contact with royalty was a visit of the old King of the Hellenes, who came on board at Patras to church on the upper deck The Captain turned to me and whispered "Get him your boat cloak he will be too cold" This garment having no badges of rank was in every way suitable as he was in his own uniform He returned it to me after church and asked to see my cabin where he took an interest in photos of my family and in my pet canary which sang for him A most gracious kindly old man whose subsequent assassination was deplorable The Crown Prince and Princess sister of Kaiser William came off to lunch and charmed us all with their perfect English and perfectly natural bearing towards us The Crown Prince next to whom I sat told me of his campaigns against the Turks Afterwards the Princess asked me to dress her little son's cut finger She said I should find it very dirty it always was she couldn't keep him clean How natural and how right she was That boy ascended the throne in course of time

We next went to a Greek Island where the Kaiser had a place in which he was in residence during our visit He came off in his British Admiral's uniform accompanied by his Staff Officers to inspect the ship and ship's company His officers a collection of the tallest persons I have ever seen in a group pretended to be unable to speak English or French I am quite sure they thought naval officers were beneath their notice especially British naval officers but the Kaiser was very voluble and affable toasting the King and Queen and the Navy We had a stoker petty officer with a protuberant abdomen When the Kaiser came to him as he stood in the ranks for inspection, the genial potentate tapped at the man's umbilicus and remarked with

an ingratiating smile They must half don you well The stoker looked at the Kaiser with a cold gloomy stare and a poker face and kept a dignified silence until the inspection party had moved on a few paces when those of us bringing up the rear of the procession heard him mutter to anyone who had ears to hear Ecc dun t know ow to behave like an Admiral I never been so spoken to before by an English Officer or gentleman

There was no doubt that the Kaiser had misunderstood the British stoker s code of officers behaviour to him and that the gibed Germans did understand English for they at once showed their reaction to the stoker Petty Officer s little speech in their faces

I enjoyed my long walks in this lovely island one to the top of its highest mountain which repaid my exertions with a lovely view In the foot hills I stopped for some time in a little village watching country dances it a fair The national costumes were very picturesque

On our return to Malta for the Season I found my wife had arrived the same day and was installed in the nice little flat opening on to the flat roof of the Hotel Windsor next door to the opera house If we felt disinclined to assume the elaborate dress customary for attendance at the performance ball dress for me and a correspondingly conventional attire for my lady—we could sit on deck chairs on the roof and hear every sound of the opera We spent a good deal of our time in the company of Professor Zammit exploring the wonderful archæological remains in Malta for Zammit was a really great archæologist and charming companion besides being one of the first if not actually the first bacteriologist to discover the cause of Malta fever I think he enjoyed showing us the prehistoric and historic treasures of the island as much as we appreciated his kindness and learning so proud was he of his native land s connexion with antiquity

Tennis golf bathing and dancing attracted us much more than the races results of which seemed to us very much in the hands of native jockeys and bookies of a doubtful code of honour

The Duke and Duchess of Connaught with Princess Patricia were established in one of the Palaces near the Opera House when they were not cruising in my old ship the *Abouki* on the Duke s visits of inspection of our military establishments in the Mediterranean It was during this Royal Party s cruises that my old messmate Lieutenant (now Admiral) Ramsey met the Princess Incidentally I had to perform a tonsilectomy on this officer before I left *Abouki* The whole family was immensely popular with all ranks English and Maltese for their unaffected goodwill and tact To give one instance out of many illustrating the point Although we golfers would have gladly yielded precedence to them on the links they insisted on being treated as ordinary members and on one occasion went out of their way to show how accidental trespass should be endured A young soldier of prodigious driving power playing with me behind a foursome of the Royalties with an A D C so over estimated his length with an iron shot from our tee on to the green that it bounced off a hard patch on the green on to the tee of the next hole and struck the Princess as she was about to drive the delinquent ran after the A D C

and asked him to apologize profoundly but the A D C said he was told to say that my friend s driving had been much admired all the way round and would he please take the A D C s place the next afternoon

After some months the Duke found that he had exhausted all there was for him to do in the Mediterranean and refused to cling to a job which had become a sinecure He soon afterwards went to Canada as Viceroy taking Ramsey with him as A D C

The *Formidable* was lying alongside Malta Dockyard one morning with her full complement of nearly 1 000 men when I had the pleasure of reporting to the Captain that not only were there no cases in hospital or on the sick list but not even any on light duty Of course such a happy state of things did not last long but it was considered so creditable to the Captain his officers and men that it was reported to the Admiralty and favourably commented on It was certainly a great change from the old days of Malta fever and enteric

Our time on the Station was now up and we went home to Portsmouth to pay off As usual I applied for a hospital job and to my delight and surprise was appointed temporarily of course in charge of the whole medical section of Plymouth Hospital I had not previously met the Inspector General (Surgeon Rear Admiral) and he very bluntly asked how it was that a rather junior Surgeon Commander like myself had been appointed to take a Surgeon Captain s job I said I understood that this officer was at present so much involved in important work as Deputy Director General that he could not be spared for a month or two and so as I was unemployed I imagined I was just an under study My new chief looked at me from head to feet and hoped I would live up to the job but when Surgeon Captain A May eventually left the Admiralty and took over from me three or four months afterwards I received a very flattering flimsy from a man who had been naturally doubtful about such an appointment I found the work of absorbing interest The medical cases in the officers block and the two enteric wards appealed most to me

One illuminating case was that of an elderly Lieutenant Commander (promoted Warrant Officer) an old shipmate of the Commander in-Chief and the Surgeon Rear Admiral He was attached to the Barracks and living on shore had consulted a general practitioner who diagnosed malarial fever because the patient had rigors and a tropical history As quinine had no effect he was sent to hospital as a case of very malignant malarial fever There was slight jaundice and tenderness of the liver He had had diarrhœa while living at Hong Kong but no dysentery Blood examination excluded malaria and indicated suppuration After needling the liver in several places without discovering any pus and as the patient with daily rigors persisting was steadily going downhill I asked the Surgeon Captain in charge of the surgical side to see him with a view to exploratory laparotomy

We found no sign of calculus but the gall bladder was empty I think we must have pulled it and the liver about a good deal in our search and that the explanation of the patient s speedy and uninterrupted recovery after an apparently fruitless search must have been that we unconsciously freed the duct by our strenuous palpation from some obstruction and passed this

man [illegible] calculus) into the intestine. My only regret is that I told the relatives immediately after the operation that it had been a failure. But for years afterwards when I chanced to meet the old man himself he would hail me as one who had saved his life. During the Commander in Chief's inspection he visited his old shipmate while recovery was taking place and was persuaded that I was responsible for the miracle.

Part of my duties was I found to inspect the wards on the medical side although of course I could not be responsible for every detail of treatment. There were, however, some points of hygiene which I had learnt at Wei Hai Wei I wished to introduce here and which I suggested to the Surgeon Rear Admiral and he concurred. This rather upset my very good friend who was in actual charge of the enteric cases. However we very soon settled our different spheres of influence guided by good tempered friendship and the experience of the Surgeon Rear Admiral who said it would be absurd of me to make a perfunctory visit to the medical wards without the right to express an opinion about treatment and hygiene in practice there. The tragedy of the mental block was relieved one morning by a touch of light comedy. A private of Marines who had been distinguished in barracks for a long time for his brilliant conversation and inordinate conceit mixed with an unmerited confidence in his inevitable success as a gambler with an infallible system had been sent in at length for observation. His Wassermann was + + and his slight tremor turned one's thought to G P I. He with other cases under observation was standing in the recreation ground waiting for me to have a talk with him. He opened the interview with a brisk rather condescending 'good morning' and went on to tell me that he was just off to London in his Rolls Royce to inspect the large new hospital he had recently built there. He added that he thought so highly of my ability and zeal that he had contemplated the post of Medical Superintendent for me but on reflection he had reluctantly come to the conclusion that he must have a man with brains! He seemed pleased when I cordially agreed with him that what he wanted was brains.

What still puzzles me is how much of the yarn he told me did he really believe himself. Anyhow I have no doubt he was feeling very happy which after all is what so many people are striving unnecessarily to become.

(To be continued)

Clinical Notes and Cases

DENTIGEROUS CYST ASSOCIATED WITH THE LOWER RIGHT WISDOM TOOTH

BY

Surgeon Commander (D) W I N FORREST, R N

AND

Surgeon Commander (D) R C DINSDALE, R N V R

H I — This case is of a W n aged 25½ years who reported to the Dental Department Royal Naval Barracks Portsmouth in December 1949

She is an excellent general health and her only complaint was that she had slight pain in the lower right quadrant and that she had suffered discomfort on other occasions prior to this year She had been given no medicinal except for the occasions of drainage from a small sinus opening into the mouth below and behind the lower right second molar

Radiological examination revealed a polycystic condition in the lower right third molar region

Patient was referred to the Special Surgical Dental Surgery R N Hospital Haslar on 1 1 50

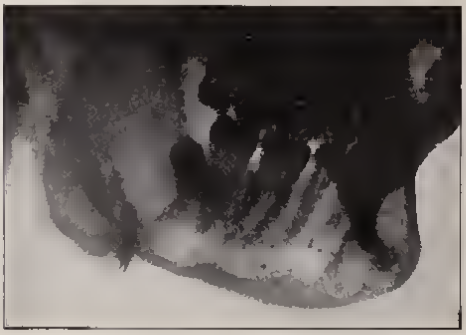

FIG 1 — Pre operative condition showing $\overline{8}$ in situ and Cysts

[illegible] there was no appearance of [illegible] treatment

[illegible] the mouth [illegible] very [illegible] except the lower right [illegible] the mouth [illegible] the [illegible] little [illegible] [illegible] nutrition

[illegible] little [illegible] [illegible] with [illegible]

[illegible]

The blood [illegible] long bones.

Drug [illegible] possibly [illegible] complicated [illegible] of the Navy [illegible] a bugaboo [illegible]

Operation [illegible] the Dutch [illegible] anterior [illegible] margin [illegible] articulation [illegible] tuberosity [illegible] the acetabulum [illegible] case is not [illegible]

A cristobalite [illegible] socket is then [illegible] by an [illegible] and a [illegible]

[illegible]

ALVEOLECTOMY AND THE FUNCTIONAL VALUE OF ALVEOPLASTY IN IMMEDIATE PROSTHESIS

BY

Surgeon Lieutenant (D) J. W. McLEANE, R.N.V.R.

THE surgical preparation of the oral mucosa and alveolus prior to the insertion of dentures has received increasing attention during the last few years. Whilst the case presented in this paper represents the more radical type of alveolectomy, it does illustrate the great benefit derived from the immediate closure of tooth sockets by properly designed gum flaps. The technique of alveoplasty has proved most valuable for the average extraction case and is a logical follow-on from the earlier successes of alveolectomy performed for aesthetic reasons.

Case History.—The patient, a male aged 19 years, presented himself complaining of [illegible] in his front teeth and also difficulty in sealing his lips. He was also [illegible] over his appearance and on examination proved to be a Class II division I case. [illegible] impossible for him to protrude the mandible far enough to obtain any incisal [illegible], and his upper lip was dry and cracked to the protrusion of the upper teeth. [illegible] the treatment by intermaxillary traction would have probably improved [illegible] at this stage it was felt that surgical relief of the superior protrusion [illegible] satisfactory course. (fig. 1)

FIG. 1

[illegible] penicillin intramuscularly and premedicat[illegible] [illegible] half an hour before the operation and [illegible] [illegible] endotracheal anaesthesia is given [illegible] [illegible] permit this and from the results [illegible] could be obtained with this [illegible]

[illegible] blocks (intra-oral technique) of [illegible] [illegible] injected into the anterior palatine [illegible] [illegible] blocked in the premolar region [illegible]

[illegible] in the [illegible] region and extended [illegible] [illegible] cutting of fibre [illegible] on either side of the [illegible] [illegible] These gum [illegible] [illegible] was made to avoid [illegible] [illegible] prevent the [illegible] [illegible] the buccal [illegible] both [illegible] [illegible]

If the [illegible] that [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] [illegible]

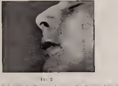

Fig. 2

the labial [illegible] [illegible] ridge was [illegible] [illegible] In order to [illegible] on the palatal [illegible] was not enough [illegible] to [illegible] area (fig. 3).

The bone [illegible] with [illegible] and the [illegible] tough edges [illegible] was kept [illegible] [illegible] gum flaps were [illegible] placed in position and the excess tissue [illegible] scissors. It must [illegible] that the [illegible] any muscle attachment [illegible] the other hand [illegible] the gum flap [illegible] the bone a flabby [illegible] at the crest of the ridge.

Penicillin sulphonamide powder was dusted into the wound and the flaps [illegible] interrupted silk sutures.

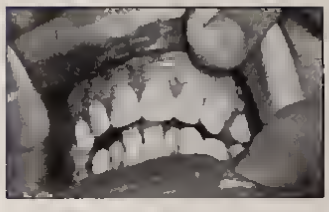

FIG. 1

[illegible]

DISCUSSION

Multiple extractions of teeth without alveoplasty in immediate prosthesis has produced today the many cases of mutilated alveolar ridges which remain a constant source of irritation to the patient. The removal of both lingual and buccal alveolar plates during multiple extractions performed under adverse conditions is a common occurrence and these cases never lend themselves to stable prosthesis. Whilst many dentures are constructed to fit into the sockets of the extracted teeth, this typical immediate prosthesis cannot possibly remain permanent for edentulous cases, and relining techniques are never very successful. Alveoplasty for the edentulous jaw seals by surgical means an otherwise infected area and the rapid healing of jaws treated in this way renders a valuable service to both patient and operator.

Alveoplasty should aim at the maximum conservation of bone compatible with the costing of the gum flaps. The mucosa should be handled with care and over instrumentation avoided. Accurate and adequate suturing must be employed and the exposed area kept free from infection. The flabby thick frenum should be removed if possible by a Z plasty, and muscle attachments kept well clear of the denture bearing area. The nasal spine will absorb after extraction of $\overline{1|1}$ and adequate support to the columella of the nose must be provided in the denture to combat the flush lace appearance of these cases.

Immediate prosthesis will [illegible] and stabilize the [illegible] maintain the muscle pattern of the masticatory muscles, ensure the [illegible] maintenance of the free way space and condylar path. The facial expression muscles will not lose tone and the correct tongue space may be provided in the denture. The patient is psychologically better prepared to learn denture control than if he is left for six months to ponder on his edentulous jaws and then presented with two large blocks of plastic.

Alveoplasty and immediate prosthesis is recommended as standard practice for the multiple extraction case.

I am indebted to Surgeon Captain (D) C. J. Fuming, Command Dental Surgeon, Portsmouth, for his permission to publish this case from R.N. Barracks.

A CASE OF CROHN'S DISEASE TREATED BY HEMICOLECTOMY

BY

Surgeon Commander W. J. FORBES GUILD, R.N.

Case History.—J. B., an Ordnance Artificer Lieutenant, 35, reported to his medical officer complaining of irregular abdominal pain of some weeks duration and though it showed no definite relation to food he was regarded as a case of possible peptic ulceration and discharged to the Medical Wards of Wynberg Military Hospital on 9th November, 1948.

Included in the routine investigations, an [illegible] was an X-ray examination of the gastro-intestinal tract and in view of later events it is of interest to quote from the Radiologist's report at that time. "Examination of the small and large bowel showed no evidence of abnormality of pattern or persistence. Slight degree of fundus was checked under the medial aspect of the transverse colon. It is not at all unlikely that there is a suggestion of an irregularly filled appendix was illustrated." In short, an X-ray diagnosis of chronic appendicitis was made and appendicectomy advised.

Appendicectomy was carried out on 24th November, 1948, a grid iron approach being employed. The appendix was grossly diseased, and the caecum was very small, one search for a normal stump of the appendix was made. Some surprise was expressed at the unwillingness of the bowel to present. On examination, it further proved clear that it was pathological. It had a large tumoral fold and resistant lumen. This condition appeared to affect the whole of the terminal ileum and ran up the caecal wall for perhaps 4 inches. A provisional diagnosis of regional ileitis was made, and further biopsies were collected on the small and colonic [illegible]. One felt probably rightly that this was a [illegible] and that a more [illegible] urgent affair at that stage, as the lesion was obviously patent.

The scar healed without difficulty. He appeared cured of symptoms, and gained weight and general condition improved. He later turned to duty, and post-operative X-ray examination showed no [illegible] of the lesion, and had been under observation.

In April, 1949, he again reported complaining of [illegible] pain across the lower abdomen, sometimes colicky in nature, and sometimes persistent and dull ache. There was no vomiting, in fact, though all the bowels were [illegible] and the stools appeared well formed. Clinical examination revealed the palpable [illegible] of a tumor lying low in the right iliac fossa, tender and very tender.

He was readmitted to Wynberg Military Hospital on 30th May, 1949. A check

Fig. 1

Fig. [illegible]

his [illegible] breasts [illegible] Transfusion [illegible] were given [illegible] excellent [illegible]

The [illegible] entirely [illegible] infiltration [illegible] caseous tubercles [illegible]

I am indebted to Professor J. C. Thomson of Cape Town University for the pathological report, to Dr. C. J. B. Muller for the X-ray reports, and to Mr. J. McMurray of the Department of Surgery, Cape Town University, for the photographs and X-ray reduction.

PAIN IN THE LEFT SHOULDER

BY

Surgeon Lieutenant-Commander A. J. SANGSTER, R.N.

In a recent paper Rhodes Allison (1950) emphasizes the differential diagnosis between cardiovascular disease and localized lesions in the structures of the chest wall in cases where pain is the presenting symptom.

It is significant, perhaps, that in the illustrative examples in that paper all the cases were in the fourth or later decades of life. In that age group the focus of attention is more likely to be on the cardiovascular system than on

local structural [illegible] and the stress laid on the need for [illegible] towards pain in the chest is important

In the younger age groups there appears to be a [illegible] tendency towards pain in the chest Rhodes Allison [illegible] cases of diseases of the lung and pleura though they are well recognized is an occasional cause of difficulty in diagnosis

The focus of attention in pain in the left chest and shoulder region in the younger age group seems predominantly on local structural causes and mistakes in diagnosis are perhaps not so occasional and can be as disastrous as diagnosing heart disease when the trouble lies entirely in the chest wall

During the past three months I have seen 6 cases which bear this out The short summaries of these cases given below are illustrative

Case 1 A Seaman aged 28 reported sick complaining of pain in the left shoulder He had no other symptoms The pain was aching and fairly severe Examination [illegible] showed tenderness in the left trapezius muscle and a painful nodule on deep palpation in the posterior triangle of the neck A diagnosis of fibrositis was made and he was referred for physiotherapy While sent he was in his third week of physiotherapy without relief

Upon further pulmonography he was picked up for further investigation A large film showed extensive tuberculous infiltration in the left middle and upper zones On clinical examination he no longer had tenderness in the left trapezius and the tip of a long rib was over the process palpable in the posterior triangle corresponded exactly with the nodule previously reported Further investigation showed an active tuberculous [illegible] which has been transferred to a sanatorium

[illegible] Tenderness is based on the last rib [illegible] the tenderness in the trapezius [illegible] the rib tip of regarding the tip of the long transverse process as a nodule [illegible] and palpation by squeezing muscle fibres between fingers and bone) [illegible] shoulder [illegible] sanatorium [illegible] There was no muscle spasm [illegible] the posterior triangle [illegible] pain or radiation [illegible] the edge of the pectoral area [illegible] tenderness in the trapezius muscle [illegible] palpation only

[illegible] right trapezius [illegible] is [illegible] found in the case of [illegible] pain in the neck—elicited the movement of the [illegible] by the physiotherapist [illegible] But pain in this case was in the [illegible] pleural irritation from the tuberculous [illegible] the apex

[illegible] B aged 17 reported sick with pain in the left shoulder He gave [illegible] of a month's growing pain in the right that he may [illegible] The pain was aching and fairly severe There was no muscle spasm [illegible] tenderness of the muscles of the shoulder joint He was given [illegible] and a varicella Afterwards his pain showed no [illegible] he spoke for a further opinion A diagnosis of [illegible] was made and he was referred for physiotherapy

[illegible] pulmonography and a large film showed [illegible] infiltration of the apex lobe He was been transferred to a sanatorium

Case 3 [illegible] aged 21 reported sick complaining of acute pain in the [illegible] and in the left shoulder He gave a vague history of injury one week [illegible] in the last [illegible] rise of temperature and was [illegible] At the end of a week his temperature

[illegible]

[illegible]

[illegible]

[illegible] infiltration [illegible] bacilli [illegible]

Copeman (1949) has [illegible] pathology of [illegible] a step further but it still remains a term [illegible] As best it may be used for a condition producing pain in voluntary muscle groups due to inflammation of fibrous tissue The conception of a traumatic fibrositis however seems difficult to justify

Case 4 —A labourer aged 43 says his own during concerning aching pain in his left shoulder He gave no history of injury but thought he might have strained it at work A diagnosis of muscle strain was made and he was given a liniment to rub in One month later he still had aching pain in the shoulder region—and a cough which he had for granted He had no muscle spasm no tenderness and no palpable nodules

He was picked up on routine pulmonography and a large film showed tuberculous infiltration in the left upper lobe

A follow up letter brings information that this is an active lesion sputum positive and he is waiting admission to a sanatorium

Case 5 —A fitter aged 46 gave a history of sore throat followed a few days later by pain in the left axilla and over the left shoulder The pain had persisted for two months He was diagnosed as fibrositis he had been attending a clinic for radiant heat and physiotherapy

He was picked up in routine pulmonography and a large film showed tuberculous infiltration in the left upper lobe The lesion has proved to be active and he is waiting admission to a sanatorium

Case 6 —A woman clerk aged 28 gave a history of dull aching pain under the left scapula and over the left shoulder The pain had been present for three months A diagnosis of neuritis had been made and she had had a course of treatment with Vitamin B She had no stiffness spasm or tenderness She had always had a full feeling of the chest and she had no hyperesthesia or other sensory changes and the pain had never been a tingling or stabbing character (General pain) (Rogers)

She was picked up on routine pulmonography and large film showed infiltration in the left apex This has proved to be an active tuberculous lesion and she is now in the care of the tuberculosis authority

SUMMARY

Six cases are presented which have three things in common all represented sick complaining of pain in the left shoulder region all had active pulmonary tuberculosis infiltrating the left upper zone and apex all were picked up in routine pulmography the true nature of the trouble being unsuspected

Four of these cases had been diagnosed as fibrositis one as muscle strain and one as neuritis

These cases were all seen within three months work with the R N Mobile Mass Miniature Radiographic Unit

These cases are presented to echo the plea of Rhodes Allison for a reorientation towards pain in the chest with particular reference to fibrositis and the place of a sufficiently detailed history and careful examination in the differential diagnosis

D

I am indebted to the Medical Director-General of the Navy for his permission to publish this paper

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A CASE OF PERFORATED ŒSOPHAGEAL ULCER

BY

Surgeon Commander J. C. GENT, R.N.

In October 1947 an Army Officer aged 48 came to the Dispensary with a few months' history of indigestion. He had a typical duodenal ulcer story and was admitted to hospital for investigation.

His previous medical history was entirely unremarkable though he had served in Malta for twenty years. He had never suffered from any tropical diseases.

A barium meal revealed a fairly large ulcer present at the basal duodenal cap. Tenderness was present there and the cap was irritable and deformed.

On 18th December after a course of dietetic treatment the ulcer appeared to have healed radiologically. Though the stomach was still slow to empty.

He was discharged on 19th and on 29th December and remained symptom free until the end of 1949 when after a fortnight of severe pain he was re-admitted to this hospital on 7th December.

A barium meal showed a hypertonic stomach situated in the pelvis with a duodenal lesion. Barium still present after six hours. There was persistent deformity at the first part of the duodenum which was tender though no actual ulcer crater could be demonstrated. A test meal showed a climbing curve of acidity together with the presence of stomach all fractions.

After another course of medical treatment he was given twenty-eight days' sick leave on 18th January 1950 with a barium meal on 15th February. He was then symptom free but an ulcer crater was shown radiologically so still another course of medical treatment was given and he was sent home convalescent on 10th March. Nine days after leaving hospital he suddenly developed severe pain going through to his back.

It was evident at this stage that conservative treatment held no hopes of cure and on 26th April he was transferred to the surgical service with a view to operation. At 1.15 on the same day he suddenly felt sick and vomited a small amount, and developed severe abdominal pain and backache immediately afterwards he collapsed after another vomit.

Examination revealed extreme rigidity over the whole of the left side of his abdomen. A diagnosis of perforated duodenal ulcer was made and laparotomy was performed forthwith.

On opening the abdomen a very full stomach was found and there was a mass of adhesions binding the duodenum to the liver and gall bladder. There was no free fluid and no perforation was seen. A posterior gastro-enterostomy was performed, however without disturbing the ulcer.

His condition at first improved after the operation and a chest X-ray showed a large effusion in the left side extending as high as the second rib above which was a pneumothorax.

The chest was aspirated and in 2 pints of dark greenish brown fluid and 400 c.c. of air were withdrawn. 400,000 units of penicillin in oil and water but his condition deteriorated. Two and a half hours after the first aspiration another large quantity of foul smelling fluid was withdrawn and 800,000 units of penicillin given but he died two minutes later.

[illegible]

[illegible]

[illegible]

[illegible] present

[illegible]

DISCUSSION

In 1723 Hermann Boerhaave reported a case of spontaneous rupture of the oesophagus. His patient was Baron de Wassenaer, the Grand Admiral of Holland, who after a snack comprising some 26 courses felt sick, vomited and died from this cause.

The catastrophe has frequently been reviewed since then and a case occurring in a woman in labour was reported in the *B.M.J.* [1] early this year.

Chronic peptic ulcer of the oesophagus was described by Hurst and Dick in 1943 [2] after observations in some 30 cases over a period of nine years. In their opinion practically all cases of this disease were associated with a congenitally short oesophagus which, by not permitting the normal valvular action of the cardiac orifice, allowed the gastric contents to regurgitate.

Ridgway and Duncan [3] have surveyed the subject and Barrett [4] of St. Thomas's reviewed it some years ago.

In 1947 a case going on to perforation was reported from the Essex County Hospital, Colchester [5] and there was a short note on the subject in the *British Journal of Surgery* by Burns and Franklin [6] in 1949.

Broadly speaking there are two types of oesophageal ulcer: one at the lower end probably caused by the regurgitation of stomach contents through the cardia and digesting the lower part of the oesophagus, the other due to a peptic ulcer in ectopic gastric mucosa in the oesophagus. These are more common at the upper end but they may occur anywhere in the course of the tube.

I am indebted to Surgeon Rear-Admiral W. J. Colborne, F.R.C.S., for permission to publish this case.

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[1] *B.M.J.* 18th Feb. 1950.
[2] *See* Medical Annual for 1943.
[3] *Bull. Amer. Coll. Lab.* **3**, 73.
[4] *Thorax* **1**, 48.
[5] Personal communication from the pathologist.
[6] *Brit. Journal Surgery* Oct. 1949.

RUPTURE OF THE BOWEL

The Result of a Trivial Accident

BY

Surgeon Commander J. A. PAGE, R.N.

THE following case may be of interest in view of the major degree of trauma caused by an accident which appeared to be of a very trivial nature.

Case History. At about 2200 on 25th June 1950 the patient, a Petty Officer aged 29, was playing ping pong and fell against the corner of the table striking the lower part of the abdominal wall somewhat sharply. He felt no discomfort for about half an hour other than slight bruising, but during the night he experienced intense aching pain in the left lower abdomen. He reported sick at 0900 on the 26th June and was transferred to R.N. Hospital, Portland.

On Admission. This patient was complaining of severe lower abdominal pain and [illegible] feeling in both flanks. He had passed urine but had experienced difficulty in [illegible] the act.

On Examination. A heavily built rather stout man, he looked ill though somewhat apprehensive. Temperature 99.8, pulse 108. He did not appear unduly shocked. There was marked tenderness in the left iliac fossa and suprapubic region with slight guarding and [illegible] rebound tenderness. Percussion revealed no shifting dullness [illegible] liver dullness. Bowel sounds were normal. A careful watch was kept for some hours [illegible]. At 1400 white blood count was 22,000 [illegible]. X-rays showed the diaphragm to be markedly raised on both sides with a large [illegible] adjoining the lumbar [illegible] fluid [illegible].

[illegible]

[illegible]

[illegible]

COMMENT

The unusually severe damage must have been caused by the colon having been pinned forcibly against the promontory of the sacrum by the sharp corner of the table. It is difficult to appreciate this when the abdominal wall was covered by about 2 in. of fat.

My thanks are due to Surgeon Captain J. N. D'Arcy, *C.B.E.*, R.N., Medical Officer in Charge, R.N. Hospital, Portland, for permission to publish this case.

A CASE OF ACUTE HÆMORRHAGIC PANCREATITIS

BY

Surgeon Commander T. C. CLEAVE, R.N.

Case History.—A blacking stoker, aged 23, serving in H.M.S. *Cyclops* [illegible] which lay in the Mediterranean during the first fortnight of January, 1918. No [illegible] had been [illegible] but it seemed probable that the essential symptoms had [illegible] under cover of [illegible] vomiting, and [illegible] collapse. Artificial respiration was performed [illegible] ship returned to Malta within twenty-four hours and the patient was admitted to R.N. Hospital, Malta.

On the patient's admission [illegible] pulse was [illegible] pulse was [illegible] pretibial oedema. The ship continued to lie [illegible] simplicity.

The cause of the hitch-hiccup was considered most likely [illegible] thorax of a pulmonary embolism [illegible] of the lungs or heart. There was [illegible] pressure and [illegible] taken of the [illegible] Nitrous oxide [illegible] was [illegible].

This case is [illegible] cause [illegible]

A CASE OF HERPES FACIALIS, STIMULATING HERPES OPHTHALMICUS

BY

Surgeon Commander T. C. H. NEIL, R.N.

Case History.—K. R., stoker in service, aged 17.

This patient was admitted to hospital on 7th May, 1918, [illegible] herpetic eruption of the right side of the face [illegible] orbital ridge, upper eyelid and adjacent forehead [illegible] of the forehead and a patch on the right side of the nose.

There was a history [illegible] the previous [illegible] the appearance of the vesicles [illegible] other abnormality.

The case seemed [illegible] of herpes zoster [illegible] of the vesicles although the patient's [illegible] such pain as is [illegible] observed on the [illegible] time.

After three days' treatment with [illegible] blind with frequent [illegible] it was noticed that a fresh outbreak [illegible] and on the left [illegible] particularly as the lesion [illegible]

[illegible]

[illegible] to Surgeon Captain [illegible] N. H. Alex, *C.B.E.*, R.N. for [illegible] to publish this report.

METABOLIC RATE, HYPNOSIS AND THIOPENTONE

BY

Surgeon Lieutenant-Commander G. G. WALLIS, R.N.

A PROBATIONERY STUDENT NURSE, aged 18, was hypnotized as subject during an [illegible], chiefly to lower and [illegible] which persisted in spite of prolonged [illegible]. It was suspected that his condition was partly or entirely hysterical. Estimations of the B.M.R. showed a poor result, owing to his emotional tension and apprehension. The recording of oxygen consumption was abandoned. Readings varied from 450 per cent. which is consistent with hysteria, down to 170 per cent. The B.M.R. should normally be 120 per cent.

It was thought desirable to reduce the purely emotional factors by repeating, [illegible] the process. Three dummy runs showed that it was sufficiently simple. The [illegible] procedure was difficult at first, owing to his apparently constant [illegible]. The test was carried out at the 1st, 4th hypnotic session and gave a result of [illegible] 1) which I felt to be in keeping with their clinical findings, were judged [illegible] to be genuine, so that the hypnosis excluded the possibility.

[illegible] attempt to discover whether [illegible] patient than to pass [illegible] the [illegible] patient is [illegible] 2.5 gm. I said to the patient

[illegible] after the [illegible]

[illegible] who was [illegible] normal tension and was [illegible] He was an S B A aged 19 [illegible] spark when a few hypnotic gestures [illegible] tests was not strictly basal but all [illegible] times and the same hour of day They were [illegible] all that mattered for these purposes

The consolidated results [illegible]

Normal	[illegible]	[illegible]
Hypnosis	[illegible]	[illegible]
Difference	[illegible]	[illegible]

From these figures the following [illegible]

(1) In the tense [illegible] considerable fall, whereas in the [illegible] actually in the

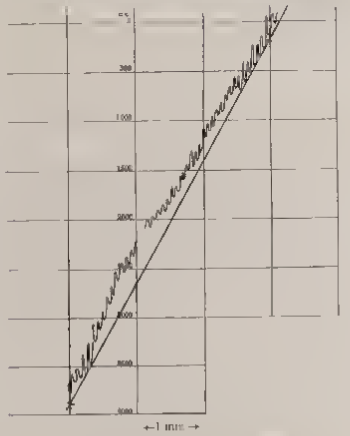
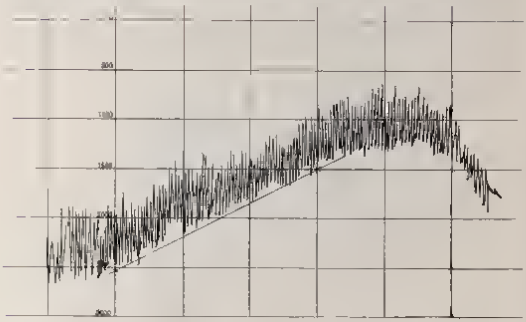


FIG 1 —Metabolism test normal [illegible] S A M aged 19 height 67 in weight 128 lb

[illegible]



[illegible]

It is therefore possible that hypnosis may be worthy of trial in the differential diagnosis of thyrotoxicosis when emotional factors produce spurious B M R recordings. This procedure [illegible] significance owing to the frequency with which agitation prevents a true basal figure being obtained. In particular the differentiation from anxiety states becomes obscured. Both Cunningham's and Cecil's textbooks of medicine contain references to this weakness of the B M R but no mention of hypnosis as an ancillary measure is made in the commonest textbooks.

My thanks are due to Surgeon Rear Admiral K. A. I. Mackenzie, K.H.P., for permission to publish this report and to Surgeon Commander J. W. L. Crosfill, R.N., for suggesting the idea of employing hypnosis on a case under his care.

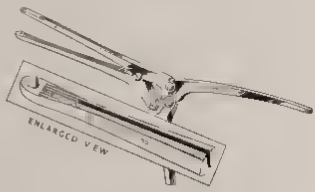
Preparations and Appliances

A GASTRECTOMY CLAMP

BY

GEOFFREY PARKER, F R C S

THE clamp here shown is not in any sense a new invention, still less is it my own



I believe however that it is worth illustrating and recording for two reasons

(1) It is little if at all known in this country

(2) Of the many instruments and devices used in the operation of subtotal gastrectomy, I believe this to be the simplest and safest It should therefore have an appeal to those whose experience in gastric surgery is not extensive

I would first pay full and happy tribute to its originator Dr Goeffaerts of Alost in Belgium A number of British surgeons in the later stages of the war had the privilege of meeting this truly great man and great surgeon. His incomparable and effortless technique was both a profit and a joy to watch and those who were lucky enough to enjoy his friendship will remember also his boundless hospitality and that of his numerous and charming family His untimely death shortly after that of his great master, Sebrecht of Bruges and on the eve of his appointment to an important chair of surgery, deprived Belgium of one of her great surgeons, and his friends and colleagues of an unforgettable friend and teacher

The clamp here illustrated, which is essentially a large size Payr clamp with a groove cut longitudinally through each of its blades is applied in the usual way at the site determined for cutting across the cardiac and of the stomach If the stomach has been correctly mobilized, the clamp may be easily applied at any level up to the œsophagus The distal portion is then cut away after applying a straight Doyen's clamp to prevent soiling

Interrupted linen thread sutures are now passed through the slits in the blades, tied off and the ends cut short The clamp may be removed either

before or after the [illegible] sutures of the anastomosis has been inserted. It is immaterial whether the anastomosis be to the duodenum as in a Billroth I operation or to the jejunum as in a Finsterer Hofmeister Finsterer or other operation. After removal of the clamp the portion of the stomach to be used for the anastomosis is kept closed by a pair of straight Kocher forceps while a second layer of sutures, either continuous or interrupted, closes the portion of the stomach not so required.

After removal of the clamp the anterior layers of the anastomosis are applied in the usual way and when used, the Hofmeister valve may be made by fixing the proximal jejunum with interrupted sutures along the line of the closed portion of the stomach.

In an unselected and consecutive series of over one hundred gastrectomies, most though not all, of which were of the Billroth I or Hofmeister-Finsterer types, carried out for duodenal and gastric ulcers and gastric carcinoma, there has been only one post-operative death which occurred from a reactionary hæmorrhage from the region of the head of the pancreas to which the ulcer, a simple one, had been adherent. There has been no case of post operative bleeding from the anastomosis into the stomach in spite of the fact that several house surgeons, without my knowledge or consent but filled with enthusiastic empiricism gleaned from the textbooks, have done their best to disturb both the patients and the suture lines by the use of various types of gastric suction for the relief of non existent hæmorrhage and distension.

All the cases have had unrestricted fluids by mouth twelve hours after operation, the only proviso being that all fluids are taken from the teaspoon to obviate too rapid filling of the gastric stump.

To summarize. After some years of experience and some hundreds of gastric operations I have with this simple clamp experienced a greater degree of security than in the past. I would, therefore commend it to all those interested in gastric surgery and on account of its security particularly to those of limited experience in this field.

It is a real pleasure to express my sincere thanks to Mr Proudfoot of John Bell & Croydon who made the clamp for me from my description of Dr Goeffaert's clamp, and who put himself to much trouble to do so.

Reviews

OSTEOPATHY AND MANIPULATION. By J. H. CYRIAX. 1949. 1[illegible] London: Crosby Lockwood & Sons Ltd. Price 6s. 6d.

At the outset the author of this small book makes it quite clear that the contents are [illegible] the main for the general public. As such the production cannot be considered [illegible] a medical value. It is however well composed and gives a short history of [illegible] and development to date. It is strongly urged in the book that [illegible] should be officially recognized but [illegible] and it should be essential [illegible] have a medical degree.

[illegible]

[illegible]

[illegible]

[illegible] absorbed [illegible] respect [illegible] appear [illegible] and health [illegible] usual for all [illegible] and other [illegible] secular [illegible] the [illegible] left to be [illegible] obviously the [illegible] are [illegible]

[illegible] and attract [illegible] large [illegible] and the publishers have [illegible]

[illegible] Volumes III and IV. A Reference Service [illegible] Chapman M.D. Senior Medical Officer [illegible] Washington. First Edition. 1948. [illegible] Price $50.00 complete.

[illegible] are an imposing [illegible] [illegible] impressive [illegible] [illegible] abnormal criminal [illegible] psychotherapy.

[illegible] dismissed mainly by the [illegible] taken from state patients [illegible] Washington for insane criminals. The [illegible] books is for the reference library [illegible] beyond the scope of general [illegible] of mental attitudes [illegible] than those moulded in [illegible] personalities is beyond repair [illegible] suspected in men in prolonged [illegible]

[illegible] Volumes I and II. Prepared under the [illegible] of the Surgeon [illegible] the Department of the Air Force [illegible] only be purchased in sets.)

[illegible] publication [illegible] of German American team and is [illegible] Medicine during the war. Immense [illegible] Revising the book [illegible] so thoroughly even so that this [illegible] the book. It is a monument to [illegible] the publishers [illegible] reference to Aviation [illegible] medicine is covered in these [illegible] the schoolman of an [illegible] care for [illegible]

[illegible] students

[illegible] establish [illegible] all special [illegible] units, or to give [illegible]

[illegible] quick sal and sales [illegible] units and [illegible]

[illegible] doctors had some eye [illegible]

[illegible]

[illegible]

[illegible]

[illegible] 1950 [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

We acknowledge with thanks receipt of the following publications

[illegible]

[illegible] the S[illegible] are [illegible] *Wak*[illegible] M209 [illegible] W[illegible] 25 7 [illegible] *Zor*[illegible] M.49 2 [illegible] *Unrines* [illegible] *Mel ay* (Cat [illegible] M209 4 M S [illegible] *I* [illegible] M209 [illegible] $2 00 *H* [illegible] N 1914 [illegible] 6 [illegible]

News of the Service

OBITUARY

We regret to report the following deaths and extend our sympathy to the [illegible]

Surgeon Captain G B COCKRIM R N (Rtd) died on 4th November [illegible] in the 4th [illegible] 1885 he qualified in 1910 and joined the R N Medical [illegible] Surgeon in 1911 He was promoted Fleet Surgeon Lieutenant Commander in 1[illegible] Commander in 1923 and was placed on the Retired List with the rank of Surgeon [illegible] on 4th November 1940 He was re employed in the rank of Surgeon Commander [illegible] until 1941 in R N Infirmary Portsmouth During the First World War he [illegible] Captain [illegible] served in H M Ships *Black Prince* *B B* and *F* [illegible]

The death of Cockrim will be [illegible] great loss to many of his [illegible] in H M [illegible] he had been a friend of the writer for more than [illegible] years [illegible] the Royal Hong Kong before the first world war and [illegible] He was [illegible] well known in Malaya [illegible] sailing [illegible] will be sadly missed We [illegible] his [illegible] to H M [illegible] This time and as many times as we spent [illegible]

E M [illegible]

Surgeon Captain J K RAYMOND R N (Rtd) died on 14th September [illegible] Born on 18th April 1872 he qualified in 1895 in Edinburgh He R N Medical Service [illegible] Surgeon in November 1898 He was promoted Fleet Surgeon in 1916 Surgeon [illegible] in 1917 and was placed on the Retired List with rank of Surgeon Captain on 19th April 1923

During the First World War Surgeon Captain Rowe served on H M Ships [illegible] Vera castle and [illegible]

Surgeon Captain J M FIVAZ R N (Rtd) died on 3rd September 1950 Born on 11th November 1879 he qualified in 1903 and joined the R N Medical Service [illegible] Surgeon in November 1904 He was promoted Fleet Surgeon [illegible] Surgeon Commander in 1917 and was placed on the Retired List with rank of Surgeon Captain in November 1929

During the First World War Surgeon Captain Rowe served on H M Ship *Lord Nelson* and *Dublin* and during the Second World War he was [illegible] on H M [illegible] and Chatham from September 1938 until August 1919

Surgeon Lieutenant Commander L W CARRETHERS R N (Rtd) died on 14th August 1950 Born on 1st November 1888 he qualified in 1911 and joined the R N Medical Service as a Surgeon Lieutenant in October 1913 He was promoted Surgeon Lieutenant Commander in 1920 and was placed on the Retired List with the rank of Surgeon Lieutenant Commander on 1st July 1925 During the First World War he served on H M Ship [illegible] *H* [illegible] and also served at R N Air Station [illegible]

PROMOTIONS

[illegible] Commander

[illegible] W. M. Divide[illegible]

[illegible] Commander

[illegible] Commander[illegible] C. M. B[illegible]

[illegible] W. [illegible]

[illegible] D

[illegible] A. [illegible]

[illegible] Commander (D)

[illegible] M. [illegible]

ENTERED FOR SHORT SERVICE COMMISSIONS

[illegible] Cawley, B.M., B.Ch. [illegible] B. Crawford, M.B., B.S. W. R. Davis, M.B. [illegible] H. H. Davison, M.B., B.S. J. C. [illegible] M.R.C.S., L.R.C.P. C. A. R. Gaul, M.S. A. [illegible] of, M.B., Ch.B. J. S. [illegible] M.B., B.S. R. H. Houghton, M.B., B.S., M.R.C.S., L.R.C.P. F. A. McCulloch, L.R.C.P., L.R.C.S. F. D. Miller, M.B., B.S., M.R.C.S., L.R.C.P. H. M. Miller, M.B., Ch.B. [illegible] M.B., Ch.B. [illegible] Perkins, M.B., B.Ch., M.R.C.S., L.R.C.P. H. H. Ross, M.B., B.S.

RETIREMENTS

Surgeon Lieutenant-Commander H. P. Cappelsman, Surgeon Lieutenant-Commander (D) N. A. W. [illegible] Lieutenant-Commander (D) K. Ross.

WARDMASTER OFFICER

RETIREMENT

Sergeant Instructor Wardmaster W. T. Hewitt (Granted War Service [illegible] of Warrant [illegible])

ADMIRALTY FLEET ORDERS

2522.—Dental Treatment and Prosthesis—Entitlement Facilities and Recording.

2252.—Medical Penicillin Reports.

2591.—Dental Examinations—Suspension of Routine Examinations.

2649.—Courses in Radiological Defences for R.N., Medical, Dental, Nursing and Wardmaster Officers.

2656.—Heat Certificates—Procedure for Issue.

2719.—Dental Treatment and Prosthesis—Entitlement, Facilities and Recording.

2871.—Medical—Dangerous Drugs in Ships not carrying a Medical Officer.

2872.—Medical—Dangerous Drugs in Ships not carrying a Medical Officer.

2973.—Prizes—Nesch Persian Forces Memorial Medal, 1950, for Papers on Tropical Medical or Hygiene.

3072.—Medical—Dangerous Drugs in Ships carrying a Medical or Dental Officer.

3080.—Correspondence—Mobile Mass Miniature Radiographic Unit—Address.

3110.—Radiation Hazards—Precautions for Protection of Personnel Concerned with use X-ray Apparatus or Radioactive Materials.

3139.—Medical—Dangerous Drugs and Scheduled Poisons in Dental Surgeries—Custody of.

3202.—Medical—Dangerous Drugs in Ships Carrying a Medical or Dental Officer.

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All communications should reach the Editors on or before the first of the month preceding the date of issue. Unless clearly written they should be typed in order to avoid mistakes, and they should be addressed to the Editor, JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE, Monckton House, Alverstoke, Gosport, Hants.

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THE EDITOR

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Royal Naval Medical School, Alverstoke, Hants.

Volume XXXVII Spring 1951 No. 2

Journal
of the
Royal Naval Medical Service

Articles

DANIEL WHISTLER, P.R.C.P. 1683[1]

An Early Director of Naval Medical Services

A man who makes a great stir in the world will have many biographers some of whom may blame while others praise him. So Sir Francis Drake shining in the pages of one as a perfect knight appears in another's a common pirate or King Charles II whose morals for centuries have been exhibited as questionable is now shown to us as a man of high virtue whose portrait might well hang in the offices of the Young Women's Christian Association. The range is considerable and the reader can use his judgment. But of those who have made less bustle in the world we are given but a few lines in a book of reference or maybe a footnote in the Life of some illustrious person. Usually we have but one man's opinion and we know not whether it is right or wrong.

In books of reference the name of Daniel Whistler M.D. Leyden and Oxford stands for one who wrote the first printed book on rickets and came in the end to high office in his profession with little credit to himself being written down as a negligent registrar of the Royal College of Physicians and as a president careless—or worse—of its property. It is perhaps revealing that the name he proposed for rickets was pædossplanchnosteocrisis. Yet dull as he may have been on rickets and reckless as he may have been when he came to office two of his contemporaries thought well of his abilities and found him good company. Evelyn in his *Diary* wrote of him as learned and the most facetious man in nature by which he meant urbane while Pepys often notes a good discourse or an extraordinary good discourse with him on subjects ranging from Ancient Egypt to the preservation of arrasses. There is one subject however not mentioned in either diary on which we may be sure the three men held good discourse and that was the care of wounded men for in this all three were deeply interested. During the first Dutch war

[1] *Reprinted by kind permission of the Editor of Lancet*

[illegible] Whistler than but 34 years of age in charge of [illegible] while in the second and third was Pepys [illegible] sick and wounded and Pepys [illegible] Secretary of the Admiralty. Of course the testimony of the diarists hardly goes further than to state Whistler as a good talker. It is the Sir Pepys [illegible] that he was something more.

The First Dutch War

On his arrival in Portsmouth in March 1653 Whistler found the [illegible] had been putting in for some time from the fight off Portland [illegible] being no naval or civil hospital for their comfort they had been [illegible] scattered all over the town and countryside in ale houses and hovels. He wasted no time. In reporting the taking up of his appointment to the Council of State Whistler says he had already returned the slightly wounded to their ships where salt meat will not do more hurt than strong drink will do here while the severely wounded and those who had lost limbs and consequently were of no use for present service were on their way to the London hospitals in horse waggons 8 cases in each with sufficient surgeons and nurses to take care of them. A grim and wearying journey it must have been for those badly damaged men as the lumbering waggons climbed Portsdown and jolted and slid over Butser Hill the ways would have been foul for it was March. He goes on to say that notwithstanding the double evacuation the town was still choked with wounded and in consequence the sick from the Fleet were being landed at Lareham signs of malignity in the sickness making this the more advisable.

Five days later he is writing again to the council on the desirability of establishing a naval hospital for the port. He first points out the inconveniences of the boarding-out system leading to shortcomings in treatment how sick and wounded were left lying long on the ground until owners of houses would come to terms and often had a long wait before the surgeons were told of their location there was the want of linen and medicines which should be ready to hand besides the difficulties of dieting and nursing the crowding of weak men into "poor stifling houses the temptations to them of drinking mordinarily in victualling houses who have no other but strong drinks". He ends by saying that he reckons "the expense of one man scattered if to the satisfaction of his host is so much as I believe would suffice two in a hospital.

Whistler was likely to have been unpopular with the publicans for though the Government allowance for board and lodging was only 7s 1 week the presence of a wounded man in the bar parlour must have been a great attraction. From time immemorial the controlled price for the exhibition of a cut finger has been the bite of an apple one trembles to think what the price in cans of beer would have been for the display of a sawn-off leg. It is easy to appreciate Whistler's anxiety to get such cases away to a place where beer did not flow quite so torrentially and amputations were at a discount.

The Need For A Hospital

[illegible] all these drawbacks he was all for [illegible] in respect of air water and [illegible] all [illegible] can be found at Portchester but [illegible] much to repair an old ruin is [illegible] to acquire the castle for the [illegible] was urgent [illegible] than the Admiralty were induced to [illegible] and the [illegible] building may out of the Channel on the North Sea [illegible] Portchester Castle still stands as [illegible] old ruin in the heart of [illegible] Harbour

[illegible] building a new house was not Whistler's [illegible] Before the arrival of [illegible] Francis Willoughby the commissioner of the port had suggested the building of a house to cost about £400 with a [illegible] and a woman belonging to it [illegible] small salary and a superannuated surgeon in medical charge Doubtless as ships full of wounded and sick came crowding into harbour Willoughby would have revised his estimate for both building and staff—we know in fact that he was soon engaging several temporary surgeons in haste But anyone who may have lost themselves in that great maze of brick and banisters the Royal Naval Hospital Haslar will smile at the thought of its first contribution with a respectable married couple as caretakers

Casualties Landed On The East Coast

What Whistler had in view he usually wrote down simply in his own clear handwriting but he showed a little more emotion when writing of his most distinguished patient who had been wounded in the fight

> General Blake I hope needs but I am checked from the presumptuous prognostics by that maxim *de mortuis non nisi bene sperandum* it is the prerogative of the Great Physician in Heaven to presage life or death and what in His secret decree a ray of whose all seeing knowledge appears but dimly to us through narrow crannies of conjectural guess

When the East Coast became the base line administrative difficulties increased for casualties (which were heavier) might be landed in any of the small creeks and havens between Great Yarmouth and the Thames Estuary Fortunately there was not a good supply of surgeons and the people of East Anglia generally seem to have been helpful doubtless inspired by the presence of Elizabeth Alkin who (two hundred years before Florence Nightingale) wore herself out in tending the wounded Writing from Harwich to the Admiralty she explains that her funds were exhausted in having the wounded "cleansed in their bodies and their hair cut mending their clothes reparations and several things else so that I have spent both the money I had of you and my own money and besides I am owing for my diet" In the last letter we have of this devoted woman now broken in health and devoid of means she is asking to be admitted to a hospital wherein to end her days in peace

As at Portsmouth Whistler had always had the Commissioner's help in

any [illegible] he could find for the same [illegible] Nelson [illegible] Barham [illegible] Hermione. Bonnie has [illegible] Whistler was interesting. Himself to [illegible] of the young [illegible] much more [illegible] enthusiasm never blunted [illegible] enthusiasm for [illegible] work. Whistler's scheme [illegible] Ipswich [illegible] Nehemiah [illegible] principle [illegible] of linking [illegible] providing the necessary [illegible] the [illegible] of the man whose main [illegible] business was the [illegible] men.

Then Whistler [illegible] the Commander-in-Chief at Sea, Blake was soon [illegible] to come under [illegible] which [illegible] set in the [illegible] humour [illegible] Admiralty asking them to listen Whistler [illegible] to take charge of the [illegible] E. show confidence in a man was to George Monck's [illegible] thinking, the highest form of praise.

The first Dutch war has been described by naval historians as the best conducted of any in which our navy has been engaged. The evidence [illegible] only gives us a picture of a hard-working administration ashore supporting [illegible] hard hitting fleet at sea. Those who know the papers relating to the [illegible] against Spain know how popular history books conceal the incredible [illegible] with which [illegible] were [illegible] after the defeat of the Armada. They know how Thurland Hughes manifested his true nobility [illegible] against [illegible] and how [illegible] Those who know the story of the Dutch Street Navy will see [illegible] there were the best [illegible] of high plans, ignorance and corruption brought them to nought [illegible] authorities [illegible] than in the days of Queen Elizabeth [illegible] must have appeared [illegible] that the good intentions of high place had been accompanied by [illegible] happy choice of men to carry [illegible] and Whistler was [illegible] and when in 1684 they buried him in Christ Church, Newgate Street, perhaps the Naval Medical Service might think there was buried one whose name should be remembered with respect.

G. R.

THE TREATMENT AND PREVENTION OF PARADONTAL DISEASE

BY

Surgeon Commander (D) FREDERICK A. PEARSE, L.D.S. Irel., R.N.

Two main problems have always confronted those interested in dental research. Dental Caries and Paradontal Disease. Throughout the years much has been written concerning these two scourges and a vast amount of knowledge of the bacteriology, histopathology, etc., has accumulated until we are

[illegible] remains. That this should be [illegible] surely [illegible] matter is essentially [illegible]

In general we have [illegible] our selection of drugs. We have [illegible] about by a combination of chemical and [illegible] tion of the enamel and thus sparing [illegible] dentum of the tooth. We have tried [illegible] septic that has been produced in the treatment of paradontal [illegible] it is not until the advent of penicillin that real hope of solving the problem arose. We know that penicillin is only part of the answer [illegible] and that the great promise shown particularly in the treatment of Vincent's Ulcerative Gingivitis has largely neglected in the so-called [illegible] which quickly followed as soon as penicillin therapy ceased.

This paper is not concerned with dental [illegible] but rather [illegible] it must be taken into consideration in the treatment of paradontal [illegible]

All things must have a beginning and paradontal disease is [illegible] Much excellent work has been done in this connexion by Dr. Fish, V. J. Simmers and many others and it is generally accepted that it commences as an erosion of the mucous membrane lining the gingival sulcus. This is a shallow gutter that surrounds the cervical margin or neck of each fully erupted tooth. The lining epithelium of the sulcus differs a little from that of the gingival crest in it lies flat on the underlying soft epithelial tissue and the squamous epithelium covering the alveolar crests and epithelial processes which intelligitate with processes from the subepithelial tissue.

The cause of the initial erosion in the sulcus is open to conjecture. There are many possible causes but for the moment let us accept the fact that it does happen and that furthermore it usually starts in that part of the sulcus situated in the interdental spaces and that at first it may cause little or no inconvenience. However should this erosion develop into an area liable to become infected an inflammatory condition results with the usual small round cell infiltration. This early inflammatory condition gives rise to the first clinical sign of infection of the gingiva or as it is called gingivitis. At this stage the individual may notice a trace of blood in the bristles after cleaning the teeth. The dental surgeon will find that on introducing a fine blunt probe into the interdental spaces immediate haemorrhage will result. Should this initial condition remain untreated the situation will deteriorate and the interdental papillae show clinical changes. They become painful, swollen and glazed in appearance.

Prompt attention at this stage will stop the bleeding, the swollen papillae will be reduced and the gums return to normal. Should however the condition be neglected it will progress either to an acute or a chronic gingivitis. Spontaneous resolution does occur sometimes.

Classification of Gingival Disturbances

The classification of the various acute and chronic forms of gingivitis is

no easy matter. The acute common form met with under Service in other communal conditions is termed *Ulcero-membranous gingivitis* (Syn. Vincent's gingivitis, trench mouth). It is an acute destructive inflammation of the gingival margins including the interdental papilla. It begins in the sulci of the interdental spaces and spreads by way of the sulcus from tooth to tooth. It is accompanied by bad taste, odour, pain, salivation and possibly symptoms of malaise with lymphatic node affection.

Aetiology.—The condition is brought about by the small ulcers in the gingival sulci being invaded by the *Borelia Vincenti* and *Bacillus fusiformis* in symbiosis with other organisms in company. They grow with great rapidity in the site. The cause of the sudden acuteness is not clear but the suggestion is that in part at least it is due to local sensitization to enzyme like substances such as histamine produced by the organisms as metabolites and by the death of the tissue cells themselves.

Vincent's gingivitis occurs as either (a) *acute localized ulcerative gingivitis*. A type localized to one section of the gingivæ. It may attack the gums of the incisal arch or the premolar molar arch on one side of the mouth. It seldom attacks the premolar molar areas on both sides of the mouth at any one time, though it can migrate to some extent. Or (b) *acute general ulcerative gingivitis*. An unrestricted type which affects all the gingival margins of the teeth and which may spread to the mucous membrane of the cheek in the molar areas, even extending to the pillars of the fauces and beyond to attack the tonsillar tissue.

Diagnosis.

The clinical diagnosis of these two forms of gingivitis is straightforward. The acute onset, bad odour and general seeming lack of oral hygiene brought about by the gelatinous adherent exudates. The congested red ragged margins of the gums surmounted by grey slough which is easily detached to leave a raw bleeding surface beneath. The interdental papillæ are swollen and ulcerated or may be completely eroded away.

If left untreated both these types of ulcerative gingivitis remain essentially acute and there is a gradual destruction of the soft epithelial and subepithelial tissues (Syn. *subacute ulcerative or marginal gingivitis*). Later there is damage to the circular ligament and paradontal membrane, with the loss of supporting bone structure. The pockets in the interdental spaces become deep and concave and there is more loss of bone here than there is in the outer plates of the alveolar bone. They are filled with granulation tissue, unhealthy epithelium and debris. The condition is now true "paradontal disease" as distinct from the early stage of superficial destruction of tissue, which is gingivitis. This loss of alveolar bone is referred to as "periodontoclasia" and it includes the loss of the soft adjacent tissue and the dissolution of the paradontal fibres. The destruction is fairly even over the section or sections attacked and is named "*pyorrhœa horizontalis*". Later all redness and congestion may disappear and the gums become pale and toneless. The pus producing organisms now dominate the situation and further deteriorization leads finally to gross bone

[illegible] with loose [illegible] teeth so that their extraction becomes a necessity This is "*pyorrhea alveolaris*" and the end of all hope of saving the teeth from extraction

All these [illegible] from a simple erosion in the gingival sulcus to pyorrhoea can be [illegible] in the same general manner and the results will be in proportion to the [illegible] the time treatment is undertaken

One gum condition [illegible] occurs from time to time but which does not quite fit in with the [illegible] just described is "*chronic marginal gingivitis*" This starts as a [illegible] painless swelling of the gum margins The gums become congested and a dark maroon colour They assume the shape of festoons at the cervical margins of the teeth on the labiobuccal side. The gingival sulci are filled with granulation tissue which may protrude as a serrated edge at the necks of the teeth This form of gingivitis may change to an ulcerative gingivitis at any time

This brief survey has dealt with the types of lesions which result in loss of tissue Others like "*atrophic gingivitis*" do occur but are usually due to systemic disturbances or the normal consequence of growing old and fair wear and tear

One final type of gingivitis remains and instead of causing loss there is increase in the amount of tissue It starts as an acute or more frequently a chronic painless increase in the bulk of the gingivæ and is primarily restricted to the papillæ and margins of the gums on the labiobuccal surfaces of both jaws It is known as "*hypertrophic gingivitis*" There are two types an inflammatory and an idiopathic or endogenous type. The inflammatory type occurs primarily in the mouths of those in whom oral hygiene has been neglected or where a local irritant is present When once established it usually becomes fibrosed Surgical means are needed to reduce the condition to normality The surgical removal of the excess tissue is referred to as "gingivectomy" Caustics such as sodium ethylate can be used in the early unfibrosed hypertrophies to remove excess tissue

We are not concerned here with the idiopathic form of hypertrophic gingivitis

Bacteriology

Although a vast amount of excellent work has been done in this sphere it has brought us no nearer to a solution of the cause of paradontal disease Certain organisms such as the *Streptococcus viridans* are normal inhabitants of the healthy mouth Unfortunately the healthy mouth is a rarity and few escape some dental disorder Dental caries and lesions of the gums will allow an increase in the number and variety of organisms Various forms of cocci bacilli leptothrix and spirochætes will be found and while the mouth remains reasonably clean they will find only a precarious foothold If however the mouth is neglected or the individual becomes debilitated through illness the anaerobic group of organisms which include the more delicate *Bacillus Fusiformis* and its co-partner *B fusiformis* will tend to multiply and they may outgrow all

other [illegible] present. This undoubtedly occurs in acute ulcerative gingivitis (Vincent [illegible]) in the early acute stage almost only *Borelia Vincenti* and *B fusiformis* are found. Sometimes in the localized form only the Vincent's spirochaete is present. In the later stages of these diseases the various cocci bacilli [illegible] themselves and in pyorrhoea the pus-producing organisms will predominate. The fuso spirillary group are thereby pushed into the background. They are still present however and smears show them in fairly large numbers but the Vincent's spirochaete stains poorly and appears rather thickened and attenuated.

Much work must still be done on the organisms found in oral infections. Many of them are harmless saprophytes some are potential pathogens and often virulent bacteria are harbourred. They may include staphylococci and streptococci of different types diphtheroids bacilli pneumococci *B coli* and other Gram negative bacilli as well as *B proteus Micrococcus catarrhalis*, leptothrix and various yeasts and moulds.

Before passing to the important subject of treatment the writer wishes to make it clear that he subscribes to the theory that paradontal disease is essentially local in origin and should be treated accordingly. There are however, many other disturbances which may be associated with gingival manifestations and if present they will aggravate or complicate the situation.

They include poisoning by the salts and fumes of the heavy metals arsenic mercury lead bismuth chromium etc and by drugs such as phenobarbitone dilantin sodium and the sulphonamides.

Lack of vitamins such as vitamin C and general disturbances like uraemia diabetes pregnancy menstruation and the blood dyscrasias also give exaggerated lesions of the gums.

It will of course be necessary for the systemic disturbances to be treated primarily by the physician and the local condition by the dental surgeon. In this connexion it is pointed out that treatment of systemic disease etc may produce an improvement of the local gum lesions but will seldom eliminate them.

Treatment.—The first serious attempts to combat paradontal disease were probably made during World War I when there was a high incidence of ulcerative gingivitis or as it was then called trench mouth amongst Service personnel in France. Dakin's solution hydrogen peroxide and potassium permanganate were used as mouth washes to treat the cases. Since that time various other remedies have been tried out. The list of drugs is comprehensive and includes hydrogen peroxide zinc chloride potassium chlorate the arsenicals chromic acid sodium perborate silver nitrate and many others. A few of them e.g. mercuric cyanide were of such a toxic nature that they never came into general use.

Those drugs which have survived the years and are still in common use include chromic acid, hydrogen peroxide silver nitrate zinc chloride copper sulphate and zinc oxide used as a paste with oil of cloves.

With the idea of finding [illegible] effective in treating the [illegible] were treated. Of all the methods tried [illegible] solution followed by a [illegible] he the most effective. But like [illegible] often followed discontinuance of treatment.

With the introduction of penicillin to dentistry there was fresh hope. Here we had a drug capable of dealing effectively with the situation. And at first it really did look as if we had the answer to our problem. The reporting of the results was very encouraging. Many cases did clear up in a dramatic manner and it really did look as if we had the answer to our problem. All too soon though came the sad admissions that all was not well. The cases that responded to penicillin tended to relapse as soon as it was discontinued. As a result penicillin came into some disrepute and many practitioners returned to the older remedies like chromic acid and hydrogen peroxide. Penicillin has never quite recovered from those original [illegible] and it never will so long as it is used alone.

Now let us take for example the treatment of a case of ulcerative gingivitis. The ulceration is severe and the interdental papillae are destroyed. First the mouth is cleaned by means of small swabs of cotton wool soaked in some bland antiseptic solution. The heavier deposits of tartar are removed to facilitate drainage. Penicillin therapy is commenced. Assuming that lozenges are used the therapy will be continued for not more than six days. The mouth is then clear of infection and most of the slough will have separated and epithelialization begins. Now the trouble may arise. Nature cannot be hurried, and epithelialization is incomplete, especially in the interdental spaces of the molars. The site, in other words, is still open to reinfection. Should all the causative organisms of the original infection have been destroyed and good oral hygiene be maintained healing will proceed normally and should be complete in about thirty days.

If however all the organisms are not destroyed and there are always a few resistant mutants in each strain or if a deep infected pocket escapes the extremely diffusible penicillin then we may expect a fresh outbreak of gingivitis with the smear showing the usual fuso-spirillary organisms. The failure is due to the fact that on the one hand penicillin is a short term treatment and on the other the process of healing a long term one. The word recurrence only means that we failed in the first place either to destroy all the organisms present or to sufficiently inhibit their growth until healing was completed.

How can we bridge this gap? Certain facts are known. One is that the organisms found in the mouth are almost all sensitive to penicillin. Another is that it is impossible to produce ulcerative gingivitis by infecting the gums with fuso-spirillary organisms. There have been many suggestions that some other factor is concerned in producing the sudden acute condition to what has seemingly been a healthy mouth. One suggestion is that a virus is

[illegible] but th[illegible] clinical evidence [illegible]. Analyses [illegible] that [illegible] and that the [illegible] in the breakdown products of the dead cells present.

It is known that substances such as histamine are produced from histidine, one of the essential amino acids, by the loss of CO_2 during decomposition of dead cells. These H-substances are capable of delaying healing and producing capillary dilatation with consequent increased permeability. It is not impossible that some of the local hyperæmia and stasis found in gingivitis is due to these substances.

With the idea of proving or disproving that these H-substances have the effect of causing the persistence of gingivitis, small quantities of various anti-histaminic drugs mixed with zinc oxide were packed in the interdental spaces of selected cases. It was found that the condition responded favourably to this technique. A tooth powder containing a small quantity of anti-histamine was then tried. It proved so satisfactory that it was decided to use it in conjunction with penicillin therapy. The results were extremely satisfactory and furthermore if the tooth powder was continued after completion of the penicillin therapy there was no relapse or "recurrence." Where, however, the penicillin had failed to penetrate a deep pocket it was noticed that that pocket remained inflamed, and another short course of penicillin at a later date, and concentrated on this focus, soon eliminated the residual infection. Once treatment was complete the contours of the gums gradually returned to normal and the interdental papillæ reformed to fill up the interdental spaces.

Cases which have been observed for periods up to six months, and of which serial models have been prepared, have made such good progress that it is impossible to detect clinically that any lesions ever did exist.

From these observations it has been possible to develop a definite technique to deal with all types of paradontal disease of local origin.

At the first visit the patient is questioned on the following lines:

(1) How long the condition has existed.
(2) Whether it is for the first time, or if there have been previous attacks.
(3) Whether it is painful or irritating.

The dentist will himself observe:

(a) The appearance of the gingivæ.
(b) The degree of ulceration and whether it is localized or general.
(c) The amount of tissue lost and depth of pockets.

He will then make his approach to treatment taking into consideration the degree of acuteness or chronicity present.

First it will be necessary to clean up the mouth. A partial scaling of the teeth is done and the patient is instructed to clean the teeth at least twice a day using a medium or soft brush. The brushing is done using a circular motion of the brush and all surfaces of the teeth and gums are brushed carefully but thoroughly.

The powder to be used is given to the patient who is instructed as follows:

First wet the [illegible] Sprinkle a small amount of the powder [illegible] thoroughly and finally rinse out [illegible]

The powder is [illegible] which is added 2 per cent of a suitable [illegible] ding

Should the condition be [illegible] painful it is [illegible] commence penicillin therapy at once otherwise the [illegible] of the mouth will discourage the patient from cleaning his teeth

Penicillin lozenges of 500 [illegible] each are used and fifteen of them are given to the patient Eight to ten are used each day and the patient instructed to let them dissolve very slowly in the mouth

Cigarettes should be cut down to not more than twenty a day

Visits to observe progress can be spaced to from four to seven days according to the need to observe progress and at each visit the mouth is cleaned up and search made for any remaining calculus

Loose teeth should be extracted as they only retard progress

The progress is in proportion to the damage done and if the circular ligament has not been damaged or destroyed rapid and full recovery of the gingivæ may be expected

The anti-histamine drug chosen for these investigations was 2 phenylbenzyl imidomethylimidazoline hydrochloride $C_{17}H_{19}N_3HCl$ Its relationship to histamine β-4-iminazolyl-ethylamine influenced the selection

They are both associated chemically with the glyoxalines or iminoazoles

Its toxicity is low immediate action slight and it does not cause irritation when applied locally It is compatible with penicillin

There does not seem to be any reason why anti histamine should not be incorporated in a non-alkaline tooth paste It is compatible with glycerine which is used as a bond in tooth paste manufacture and the bitterness of the drug is largely offset by the sweetness of the glycerine Suitable flavouring could also be added to mask the bitter taste

The percentage of anti histamine in a tooth paste should be 1 to 2 per cent Below 1 per cent is ineffective and there is no additional advantage in an amount in excess of 2 per cent

The number of cases treated with penicillin anti histamine therapy during the last twelve months was about one hundred Most of these cases were either local or general ulcerative gingivitis The local or subacute type responds very quickly and one can almost guarantee a complete cure in every case This applies similarly to the general or fulminating gingivitis though treatment has to be extended over a longer period.

The chronic conditions require considerable patience and persistence but good results have been obtained The bleeding stops the bad taste goes and the tone of the gums is generally improved This improvement is reflected in the patient's disposition He is greatly relieved that something of a permanent nature is being done and that the pretention of "recurrence" is certain so long as he carries out his instructions

[illegible] reported [illegible] [illegible] [illegible] [illegible] [illegible]

In [illegible] this has been recorded there has been a [illegible] however be a mere coincidence In no case has there been [illegible] side effects from penicillin or antihistamine

From this rather [illegible] cases there is definite evidence that all cases of paradental [illegible] origin can be successfully treated by penicillin and histamine [illegible] prevention of recurrence is assured so long as the teeth are cleaned [illegible] using antihistamine tooth powder or paste

Further that antihistamine will prevent the gum margins against the initial erosion that occurs in the epithelium of the gingival sulcus

As this initial erosion is the precursor of gingivitis and paradontal disease it is not unreasonable to assume that here we have at our disposal a possible means of "prevention of paradontal disease"

Diphenylhexylamin methylimidazoline hydrochloride is produced by CIBA Laboratories Ltd Horsham Sussex as Antistin My thanks to this firm for the information they kindly provided

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"MAINE" CHANCE

BY

Surgeon-Commander H J BENNETT, R N

In April 1949 the incident in China which involved the now famous H M S *Amethyst* caused a considerable number of casualties The United States Naval Hospital Ship *Repose* rendered signal medical assistance at that time and possibly as a result of this the decision was made to re-commission H M H S *Maine* then in reserve in Malta On the 19th September 1949 newly commissioned she sailed for service in the Far East Certain mechanical vicissitudes delayed her continuous onward passage eastwards with the inevitable bestowal of Slow Bun to China as her nickname Eventually Hong Kong was reached on 28th October 1949 where she slowly swung round a buoy for some months doing nothing at all As a minor relief from the unending boredom of unemployment she sailed on 1st March 1950 with the British Far East Fleet for Subic Bay in the Philippines there to act as a base hospital during a period of combined exercises with the United States

Naval Ship[illegible] [illegible] officers. From there *Maine* sailed to Sasebo [illegible] a month's refitting took place. By 20th April 1950 [illegible] uneventful voyage to Hong Kong and there were some [illegible] of continuing the expense of her upkeep under the [illegible] 22nd May 1950 she sailed again with units of the British Far East Fleet for a summer cruise in Japanese waters and (professionally) still doing very little to justify her existence.

On 20th June 1950 (when hostilities in Korea broke out) she found herself at Kobe. She was in company with other British Fleet units immediately placed at the disposal of the United Nations forces under United States naval operational command. On 14th July 1950 she arrived at Pusan in South Korea to assist in the evacuation of casualties back to United States bases in Japan. *Maine's* chance had come being the only hospital ship available at the scene of operations.

At first an exploratory trip with a small number of patients was made to Kokuoka the nearest port in Southern Japan where there was an excellent United States Station Hospital for reception but this place proved impracticable because there was not enough water for a ship of her extraordinary draught to get nearer than some 3½ miles to an alongside berth and disembarkation was only possible on that occasion by the purely fortuitous presence of an ur set rescue launch of the U S A A F. From this time onwards we always used Osaka as our port of disembarkation except on one occasion when a severe typhoon in that region had caused great loss of life and enormous damage to shipping and port installations resulting in our diversion to Yokohama. It was fortunate that we were always able to load and unload patients from alongside this greatly facilitated the work involved if boom work with cots slung outboard by means of ships derrick had been at any time necessary in rough seas our task would have been greatly aggravated particularly as regards the time factor during a state of affairs where speed was an essential factor.

In all eight trips (between 16th July 1950 and 16th September 1950) were made between Pusan and Japan carrying a total of 1849 casualties all but four of whom were United States Officers and enlisted men. This necessitated some 702 steaming hours between port and port during which time the ship travelled some 7600 miles in short ferrying passages.

During the early phases it was very quickly realized that this was a task for which H M H S *Maine* was completely unsuitable for reasons which shall be given later but as she was the only vessel of her kind available disaster necessity became the parent of adaptation of make do and make believe of tact and stress and a constant keeping once fingers crossed in the hope that we could perhaps manage somehow or other to transform a small hospital ship into a larger hospital carrier where only emergency measures could be carried out with the available staff. The primary cause of her unsuitability for the allotted job was one of intrinsic ship construction. *Maine* is a converted ex Italian liner of slow speed with engine and boiler rooms amidships their casings traversing the centre of the hospital area apparently made

relently designed to give off as much heat as possible to the ward spaces. General ventilation was inadequate for [illegible] during the summer months and the only air conditioned ward [illegible] by the necessity to keep open a [illegible] door between it and the shipping and became a hot room had to be shared. Nevertheless the [illegible] was several degrees cooler than the rest and consequently [illegible] for the more serious cases. Each trip invariably produced [illegible] elderly plumbing usually at night and work might have [illegible] ward under several inches of swilling water before the fault was located and remedied.

The main hospital consisted of wards on the deck levels an upper level comprising 110 beds in five wards and a lower level of 156 double tiered beds split into three large wards. This lower level was not provided with heads or bathing facilities and access was by [illegible] fairly steep ladders. As a result of this these beds could only be used by ambulatory patients for the most part well able to look after themselves. It could not carry its sciatics open at sea, a matter which did nothing to help the atmosphere. In addition there was an Officers ward of 16 beds situated on the upper deck. There were of course the usual facilities an excellent air-conditioned operating theatre a minor theatre X ray room laboratory dispensary dental surgery etc. Upper level wards were approached by ramps on gently sloped stairways and a lift served between the operating theatre and wards allotted to serious cases.

The medical staff of the ship was a Medical Officer in charge a Medical Surgical and E N T Specialist an Anaesthetist Dental Surgeon and Commissioned Wardmaster a Matron and four Nursing Sisters including an operating Theatre Sister six V A D s and twenty nine Sick Berth Staff of these latter eight were necessarily employed on special duties including administration medical stores laboratory X ray dispensing and operating theatre this left only twenty-one available for nursing duties in the wards. This did not allow any margin for illness and on trips No 5 and 6 we were one S B A short on each occasion as one had developed acute appendicitis and another had had a Trendelenburg operation on trips No 7 and 8 we were a V A D short each time as one had had a Trendelenburg operation and another had collapsed with a non specific dysentery and near exhaustion. Nevertheless the task was managed primarily owing to the enormous efforts put forward by the nursing and sick berth staff for whom no praise is too high often working in sixteen—twenty two hours continuous watches under intolerable conditions midsummer heat in an ill ventilated ship and in crowded wards where temperatures were usually over the 100 F mark. This was a severe enough test for the staff in their very long and arduous duties did not take into consideration its effect on ill patients who frequently had to spend three or four days and nights in such an atmosphere.

As we were away for so long a time from our normal sources of supply medical stores became an acute problem they were rapidly used up in enormous quantities and it became necessary to make urgent demands on the United States Military Bases in Japan. We were readily given assistance with drugs

dressings replacement of worn out mattresses and [illegible] Penicillin in large quantity was flown from Hong Kong and the United Kingdom Hospital laundry was only managed with American [illegible] as the ships installation was totally inadequate to deal with it. Ambulances were disembarked after each trip every bed was stripped the bedding blankets mattresses sorted counted bundled and landed for washing, the bedding immediately replaced by the United States authorities with fresh stock.

Earlier work was made to scrub and DDT wards between trips using rubber portable field spray type of apparatus air by means of the DDT bomb. On completion of disembarkation the staff by chance in an exhausted state were faced with the remains of what had been a hospital ward had to clean it again in time for the next trip. It was necessary to clean wards [illegible] the beds draw fresh linen remake nearly 500 beds and renew all wards stocks of drugs dressings instruments intravenous therapy [illegible] and the appropriate Red Cross stores (each bed was provided from this source with toilet articles including towel lace flannel soap tooth brush and powder razor and shaving cream and expendable canvas slippers) fresh pyjamas were available as required. This work was only possible owing to the very welcome respite of forty eight hours between trips needed for urgent boiler cleaning. On the return voyage to Pusan all wards were once more brought up to a state of complete readiness all hands being involved in this work. Medical Officers assisted in the preparation of theatre stocks a gauze swab was calculated to have a half life measurable in seconds only and the Commissioned Warrantmaster could be sighted for hours at a time reshapening needles on a sort of philosopher's stone his intent gaze peering through half moon spectacles it only needed the presence of a black cat perched on his shoulder to complete the picture of some magician.

At the point of embarkation each patient was individually screened by rapid clinical assessment for type and relative degree of illness or injury prior to his distribution to the appropriate ward. In the parched hot swirling dust bowl that was Pusan this at times became something of an ordeal. A large chart of the hospital had been prepared with each bed marked as a patient arrived on board he was given a slip containing his bed number which guided him or his stretcher bearers in the right direction and that bed number removed from the bed chart. By this means it was at any time possible by a glance at the chart to have a complete picture of the hospital state bed vacancies and where they were situated. A double check on the total number was provided by serially numbering each slip the remaining slips corresponding with the bed vacancies on the chart. Further check was again made at sea normally at 0200 when it was presumed that all patients were in bed occasional consternation arose with the discovery of empty beds which the chart showed as being occupied these patients were usually found by a scouring party on deck gazing with anguished eyes at a heaving sea and muttering prayers for an early death. Dramamine proved an effective sea sickness remedy.

The wards were allotted in blocks as follows

(1) 14 [illegible] LNS Specialist and one Nursing Sister [illegible] practically all medical cases [illegible]

(2) 80 beds in the forward wards in the charge of the [illegible] also acted as Medical Stores Officer. He was for a time [illegible] Sister when she was available but later she was required to help [illegible] continuing the more serious cases. The forward wards [illegible] Lucens medical cases were competently supervised by an LSBA.

There was also an amidships block of 53 beds for surgical [illegible] in the charge of the Surgical Specialist and one Nursing Sister.

These wards were manned by an entirely insufficient number of SKE [illegible] rankings whose cheerful endurance could at all times be relied on. The medical Specialist acted as Embarkation Officer and with the Matron assisted by the VADs was in charge of the officers ward, also the various chest injuries in the ship. In addition the Matron had her normal administration and supervising duties and did a daily round with a visit to each patient through out the hospital providing him with cigarettes and matches, candy and gum, writing paper and reading matter obtained from United States Red Cross stores. There was always one Nursing Sister on night duty for the entire hospital.

Of the 1849 patients entributed nine deaths at sea as a result of injury due to enemy action were recorded, the bodies were packed in ice in the small mortuary (a stock of ten tons of block ice being kept for the purpose) and buried at Osaka with the usual marks of military respect, here they were embalmed prior to transshipment back to the United States for burial in their home towns, this when possible being the normal United States procedure. The patients included 653 with wounds of limbs involving massive tissue destruction and often a compound fracture, there were 82 perforating thoracic wounds and 68 perforating abdominal wounds involving small and large bowel, liver, spleen, kidney or bladder respectively, there were 52 cases of head injury and 247 frank neuropsychiatric subjects. The remainder were [illegible] numerous medical and surgical ailments of an special interest. Sixty-eight major surgical procedures under general anaesthesia were carried out, often at [illegible] including three mid thigh amputations, for this latter operation the use of an American pattern pneumatic tourniquet under easily adjustable control by the anaesthetist is an aid to surgery of considerable value. 221 X ray photographs were taken, 32 blood transfusions given and nearly 1,000 mega units of penicillin (mostly procaine penicillin) were expended. On a small laboratory distilling apparatus 372 pints of distilled and filtered water were produced and from this the appropriate intravenous solutions were prepared. In all 528 MRC pint bottles were used, the additional fluid being drawn from United States sources, these bottles had to be prepared, filled, sealed and [illegible] autoclaved in small numbers. Over 100 MRC transfusion sets were made as replacements from stocks packaged in cellophane and auto-[illegible] ready for instant use. 21,000 meals were served to patients during this period with the assistance of galley hands drawn from up-patients. This [illegible] routine which the Americans used to cafeteria service found strange

and [illegible] be explained [illegible] and their [illegible] help no end [illegible] of plant and cutlery [illegible] mention must be made of the staff [illegible] Chief [illegible] figures and the staffing problem [illegible] Mance's Sick Berth Staff complement had been [illegible] of the ship sufficient for 426 beds only based on the assumption that there were not all occupied at once and catering only for the small numbers of miscellaneous patients that might be reasonably anticipated from a fleet manned by fit healthy young men and certainly not in that with battle casualties *en masse*.

Comparison should be made with the United States Hospital Ship *Consolation* which eventually arrived on the station to assist in this work. She had been specially designed as a hospital ship with 500 beds. She carried 20 medical officers and even larger number of Nursing Sisters and 130 medical orderlies. Thus they considered insufficient and the supply of even further staff had been approved. The ship was air conditioned throughout and fitted with every conceivable labour saving device for nursing purposes and equipped on a most lavish scale. All furnishings made of stainless metal to minimize cleaning. The navigation and engineering side of the ship was manned by U.S. Naval personnel under Service discipline who could be called upon to help in an emergency. [illegible] affairs which did not obtain in *Maine*. Local Korean labour was recruited to do any necessary donkey work with this magnificent staff, equipment and working conditions (*Consolation* did one evacuation of 430 patients). Her medical stores were more a store keeper's dream of spaciousness. Lighting and ventilation and designed fittings. Her wards are provided with electric galleys and fresh running and boiling ice water on tap both in comparison for medical stores and bath. Her laundry can easily serve all the ship's requirements.

Maine's stores and [illegible] were all crowded, badly illventilated, gloomy spaces in the bottom of the ship where the temperature is in the 120° F. This has a severe deteriorating effect on many articles. Stocks are stored in home made racks and hangings. Her wards possess galleys with steam heating, old type small domestic refrigerators never all working, just enough in any one time, and totally inadequate to carry out a ward cooking, stocks of food and medicines in bad condition. Ward furnishings of cupboards for drugs, equipment and linen are any sort of wooden cupboard or could, drawn dumped in any convenient space available. Owing to the midship position and light rooms the ward places are dark and such, very that the whole [illegible] and is completely resident under one person from my experience making proper supervision by the Nursing Sister in Charge [illegible] of supervision, and sometimes promoting an apparent lack of care which will be difficult and [illegible] blame in no way can be attributed to the staff who [illegible] and unremittingly to [illegible] the standard difficulties inherent in the ship.

In my discussion of the patients [illegible] I have [illegible]

[illegible] Many necessary [illegible] to be repeated [illegible] the man who [illegible] the [illegible] lying [illegible] the wound the work of his medical officer [illegible] kicked the man who [illegible] to approach the Officer of the Watch [illegible] several occasions [illegible] importuning him to alter course as he [illegible] were marching [illegible] the man who often offered Nembutal capsules promptly [illegible] his ears a degree from which he [illegible] to gain [illegible] of [illegible] instead on standing on his head who [illegible] picked [illegible] night [illegible] hysterical paraplegias who [illegible] numerous [illegible] from Korea

In the [illegible] 82 perforating thoracic injuries [illegible] with [illegible] possible [illegible] pneumothorax and hemothorax single and bilateral [illegible] right [illegible] a tension pneumothorax on one side and a [illegible] on the other. Sudden and sometimes disastrous increase in [illegible] noted in patients shortly under observation requiring prompt [illegible] dealt with the acute collapse due to severe mediastinal shift and [illegible] in the respiratory field area. One man had a penetrating [illegible] with a massive right hemothorax from which auto-transfusions were given. [illegible] developed a widespread pericardial friction and left heart [illegible] from which he made a fair recovery. It is assumed that a small [illegible] pneumothorax had been present and that the friction audible was the result of fibrinous formation. At delayed thoracotomy he was found to have a torn intercostal artery inferior rent [illegible] as well as lung injury which accounted for the massive hemorrhage. The rent was successfully repaired in a base hospital in Japan. Work was so rushed that a frequent yardstick of safety for a thoracic wound was a comfortable pulse no gross cyanosis dyspnea or mediastinal shift in the immediate or in the next more urgent problem of return to the former when opportunity offered. Intermittent aspiration of hemothorax using an ordinary 20 cc syringe and a long wide bore needle had to be employed no real notice being taken of the concomitant air replacement that was going on. Tension pneumothorax was released under water seal drainage. There was one man with a tension pneumothorax on the left side and a tension hemopneumothorax on the right as a result of multiple gunshot wounds (both released by water trap) these were coupled with a perforating abdominal injury requiring gastric suction. He was found out of bed one night walking about surrounded by his three rubber tubes and carefully carrying his various three bottles in his arms. Another bilateral hemothorax as a result of a transsternal wound had had his perforating injury uncomplicated closed. He developed what would have been in addition a tension pneumothorax except that the excess air escaped from the wound track and continued to dissipate through the tissues with a resultant massive and increasing interstitial emphysema from cyclitron to groins as he was too ill for further operation some method of closure had to be devised. Plaster and diaroplast would not hold on a sweaty skin nor for the same reason would gauze soaked in collodion glue was sent for and the ship's office reserve two-gallon jar and a large brush offered hopefully but without avail nail varnish

from a [illegible] [illegible] finally the [illegible] repair [illegible] patients [illegible] pneumothorax [illegible] X ray machine for chest [illegible] while the [illegible] control somewhat conjectural an effect could be made [illegible] pressures.

It is necessary to readjust one's ideas regarding [illegible] casualties in comparison to those met with in peacetime practice. In the latter case possibly is the result of an isolated gun shot [illegible] injury from a road accident the patient is received in hospital [illegible] suitable facilities within a few short hours at the most [illegible] injury there he may stay throughout the course of his [illegible] casualties with perhaps an already exhausted man hunger [illegible] ridden it may be many hours or even days before he reaches [illegible] proper treatment may begin. This typical injury received at [illegible] variably a day old as a minimum and often several days. [illegible] treatment had already commenced. For the short period they [illegible] ship it became necessary under the prevailing conditions [illegible] measures only leaving the correct further full procedures [illegible] eventually at a base hospital in Japan.

It is often surprising what the human body can withstand. Although viewing the long term results of these patients it is probable that better eventual intrathoracic recovery could be made if unbroken treatment were possible instead of the few days here the few days there the final [illegible] circumstances which were imposed on us by the continuous if not [illegible] Every type of road, sea and air transport was available but many delays interruptions and transfers of patients had to take place owing to the particular ride of battle and conditions in the field.

The lesson to be learned here is that with perforating chest wounds [illegible] treatment only is the ideal direct from the field to a base hospital where he is able to remain for several weeks without interruption and that the sooner this [illegible] treatment from the time of injury takes place the better. Frequent movement of the patient (apart from the deleterious effect of the continued moving of an ill patient in and out of hell) ambulances trains air plane etc. [illegible] greatly delays that essential continuity of treatment. It appeared that intermittent aspiration for as long as possible control by frequent X ray and [illegible] thoracotomy were desirable. A haemothorax containing thus needs clearing out if one is to avoid frozen lung which must be kept for the appearance of infection in the aspirated blood or other fluid and for the appearance of early pyothorax from bronchopleural fistula resulting from actual injury. Intrapulmonary haemorrage in the track of the bullet would be an ideal site for the formation of lung abscess. Rapid early re expansion of the lung with breathing exercises risks opening up a healing lung with renewed haemorrage. If thoracotomy and drainage is found necessary a small bore tube is useless in

the case [illegible] had a drainage tube [illegible] of [illegible] still [illegible] retaining [illegible] under water seal in his left chest [illegible] The [illegible] perforation in the [illegible] ence of X ray owing to severe overlying surgical emphysema from which no drainage was actually occurring removal of the tube allowed the escape of 17 ounces of sero-sanious fluid The catheter was completely blocked with fibrinous deposit and the retention in the chest of that fluid would have been an irritation to the early formation of a pyothorax A large bore tube is absolutely essential if any is to be used Naturally penicillin and one of the sulphonamide group of drugs usually sulphathiazol was used both locally and systemically in addition to the mechanical measures No type or degree of injury would ever separate a G I from his beloved *Camels* or *Lucky Strike* It was disappointing never actually to see cigarette smoke coming from a chest drainage tube A pneumothorax filled with *Camel* smoke would have been an interesting phenomenon

An interesting feature of these cases was the absence for the necessity of oxygen therapy except in extreme cases proving that even with sudden reduction in respiratory capacity and blood volume there was still plenty of reserve [illegible] only on left ie cyanosis became obvious

A point well worth a bite remembering in physical examination of a patient [illegible] extensive surgical emphysema under a certain amount of tension gives an [illegible] hyperpnoic note on percussion if this occurs on a chest still with immobile hemothorax one is led to deduce the presence of a pneumothorax when in fact it may be covering a complete hemothorax requiring quite different management in these circumstances X ray is a sine qua non in diagnosis

Four patients were delivered on board with tracheotomy tubes in situ this having been carried out as a prophylactic measure in cases of massive facial and lower jaw injuries it appeared to be largely an unnecessary procedure and involved a good deal of extra work in keeping the tubes patent and clean

With very few exceptions all surgical patients embarked in *Mauie* had already received some form of surgical treatment and they remained with us for fourteen to six days For the most part therefore the treatment required was post operative Nor was it possible for obvious reasons to do any form of [illegible] up although one base hospital in Japan was visited and the late results [illegible] impossible crisis section of patients seen These notes can only give an [illegible] of the immediate post operative period of between nine and seven [illegible]

The trip between Kerama and Japan took approximately forty two hours to do [illegible] bed is soon as healing was completed and there was no delay in *mate* [illegible] of surgical treatment was required The longer the delay [illegible] in [illegible] the greater was the number of cases requiring something [illegible]

[illegible] and most important point is due to the treatment of wounds the [illegible] all thorough surgery—excision of [illegible] edges opening up of [illegible] and the removal of foreign material and dead or damaged tissue [illegible] chemotherapy [illegible] as place All patients received penicillin from [illegible] and some were given intravenous therapy (penicillin

[illegible] and aureomycin [illegible] had not been efficiently [illegible] it was required sooner [illegible] One [illegible] impression that the use of routine penicillin in smaller [illegible] the wounds limited the spread of infection and allowed for considerable delay in surgical intervention without much local or general deterioration but surgery had to be done eventually

It was also obvious that generally speaking there was no place for the primary closure of soft tissue wounds Above every case which had been closed had to be opened up in Vietnam in [illegible] instances the effect of closure was to turn what might have been a useful [illegible] into a potential Symes amputation at the least It is probable that in an sufficiently treated wound penicillin was not really required or necessary Certainly with a delayed primary closure or secondary closure with or without using skin grafts could be done safely a few days after primary treatment and several wounds were so treated in Vietnam

Three cases of clinical gas gangrene were found following imperfect surgical toilet and in spite of the use of penicillin in mass antibiotic therapy Two were in the legs and necessitated one above knee and one below knee amputation the third involved an arm In this case the wound was laid widely open and dead and damaged tissue removed in an attempt to save the limb but it was later amputated because tissue loss was so great that the limb could never have been useful It is obvious therefore that efficient surgery is essential and that there is no alternative to it

With reference to wounds complicated by fracture there is not so much to say It is clear that wound toilet is if possible even more important here The cases all arrived in padded plasters and with the exception of about twenty cases no further treatment was required Plasters were removed and wounds explored either because of local pain or further hemorrhage At first there was a good deal of trouble with plasters which were too tight and required splitting later on plasters were split as a routine in Korea where they were put on which proved much more satisfactory It is perhaps worth while mentioning that plasters if they are being split must be divided in their whole length and the division should include any bandages used to hold the dressing in place It is also worth mentioning in this connexion that many soft tissue wounds of the limbs had dressings fixed in place by encircling strips of adhesive plaster which almost invariably acted as venous tourniquets and required dividing at the earliest possible moment It was found that for limbs a cotton bandage applied from the extremity upwards was most satisfactory Adhesive plaster should never encircle a limb

In the early stages of this period fractured femurs were put up in Thomas splints but later hip spicas were used There is no doubt that the spica gives better immobilization and therefore comfort but it was a very awkward thing to move on board ship Two amputations both mid thigh were done for damage to the femoral artery in Hunter's canal In both cases the damage to the artery was displayed first and both showed complete severance of the artery with the loss of substance Amputation was done in the site of election with some necessary variations in the standard anterior and posterior flaps Both cases were later reported as having healed well The question of a below

[illegible] used in these cases but there is [illegible] skin [illegible] just below the knee joint.

Only one abdominal operation was done on board—a sigmoid colostomy because of rectal damage. Apart from this all cases had had surgical treatment before admission and they presented the problem of the post operative abdomen. Many patients had only the scrappiest notes with them; some none at all, but this lack of knowledge of what had been done was chiefly a theoretical disadvantage. Most of them required treatment for what might be either a post traumatic ileus or a true paralytic ileus following contamination of the peritoneum or frank sepsis.

As a routine they were all given penicillin and streptomycin 1 gm. daily. If there were no definite bowel sounds and no positive story of having passed flatus gastric suction and intravenous fluids were started and continued until there was a definite proof of return of tone to the bowel musculature. It was found safer to do this as a routine than to give a query ileus a trial period; one or two of those who were given one in the early days had rather a stormy passage. Levin's tubes were used for suction as they have a slightly larger calibre than Ryles. Since the obstruction was a paralytic one in all cases the Miller Abbott tube was not used. Intermittent suction with a syringe was used at first but later given up for the more effective continuous suction using the two-bottle siphon method.

Several colostomies were opened usually using a Paul's tube. Healing of abdominal wounds appeared to be slow and the tube was used to try to avoid further contamination. They proved to be of moderate value in allowing the escape of flatus only and were removed at the earliest possible safe moment.

Although it would have been desirable to keep a check on intravenous therapy by blood chemistry estimations it was impractical to do so. A fluid balance chart was kept and a theoretical chloride balance maintained. It is unfortunate that a glucose solution which can be given *ad lib* tends to damage the vein endothelium much more than does a saline solution which has to be rehoned. However one vein was persuaded to take 28 pints of fluid.

There were four severe cases of uræmia following injury to kidneys with blood urea levels ranging from 160—250 mgm. per cent. Two of these recovered on intravenous dextrose one rallied enough to live six days longer than expected following the use of isotonic sodium sulphate intravenously. The fourth became progressively worse and died about twenty four hours after admission.

With regard to transfusions generally we preferred to use the MRC apparatus rather than the American pattern. The different parts which go to make up these sets are not easily interchangeable. This meant transferring the contents of American supplies to our own bottles but since the MRC apparatus proved easier to supervise this was considered to be worth while. No complications resulting from the transference were seen. When possible drips through needle were given into a vein on the forearm clear of the elbow and wrist joint. If this could not be done our preference then was to cut down on the internal saphenous vein above the medial malleolus. It was found most important with these patients, who were often mentally confused, to allow for some freedom of

[illegible] permitted the [illegible] had to be used [illegible] plasma preference to a [illegible] preferred [illegible] spinal [illegible] [illegible] [illegible]

There were two difficulties with blood transfusions: firstly we had to rely on obtaining supplies from an American blood bank as our only source was by bleeding our own staff. Secondly, for reasons that were never satisfactorily explained, American blood tended to block the needles or cannulæ. This tendency was overcome by diluting one pint of blood with a similar quantity of normal saline, the resulting mixture ran well. Dried plasma also gave a lot of trouble. There was on hand a considerable quantity of 1942-1944 vintage and according to the MRC Publication on Transfusion (1944) dried plasma should keep indefinitely. None of our 1942 plasma was fit for use and only a small percentage of the 1944 was in good condition. It may have been that the storage bottles were not satisfactorily sealed but the fact remains that most of it was unusable. We therefore tended to give plasma only where it was badly needed, says like severe burns and even then three or four bottles might be made up and discarded before one that passed muster was found.

It is only towards the end of this period that supplies of plasma became available from American sources and it is probably significant that dried plasma obtained thus had an expiry date stamped on the label on the bottle. Small bottles containing 10 c.c. of autoclaved isotonic sodium citrate were made available in the wards: these were found to be of great value in cleaning drips which were tending to become blocked.

Our ready use calculation with intravenous therapy: patients requiring it were given four pints of dextrose in water and three pints of dextrose saline in twenty-four hours. If gastric suction was being used these quantities were reversed. This was roughly sufficient to allow replacement of fluid and salt loss from sweating, urine and gastric content, except of course in the case of extensive burns or the few cases we received of uræmia, the result of actual renal damage where more detailed control and estimation were needed.

Our violent serum sensitization was encountered and death was only narrowly averted by the prompt withdrawal of the needle from a plasma drip and appropriate therapy: fortunately the medical officer was actually at the bedside when this happened, his accidental presence was the means of saving life.

From a purely anæsthetic aspect there was little of real value, but much of interest. In general, gas-oxygen-ether combinations were used. Cyclopropane was of great value and its possession was the envy of some American anæsthetists who were not permitted to use it. Trilene was found unnecessary. Many patients with very high temperatures from wound infection needed the opening up of the absorber circuit and a greatly increased oxygen flow. In one case the twitching of facial muscles gave warning of deep ether convulsions: prompt measures limited this to the face only and with repression of movement the patient and the anæsthetist breathed quite freely. Frequent blood-pressure readings and a close watch on the pulse were imperative. It became routine to set up an intravenous drip in the theatre: the anæsthetist with his machine

a ship an aneurysm [illegible] a pneumatic torn [illegible] in a highly [illegible] prolonged direct [illegible] If rough handling [illegible] teeth was a first [illegible] most [illegible] gum is of little value after all. Yet all [illegible] technical [illegible] very great case with which a posterior dislocation of the hip joint [illegible] fell into place under pentothal and curare anaesthesia.

Three cases [illegible] interest might be mentioned. One of a man brought aboard said to have a perforated bulbar ulcer with [illegible] clinically present under the diaphragm; gastric suction and expectant treatment had been used. A blind bleb showed no presence of air in the bowel. His abdominal sepsis recovered completely with antibiotic therapy.

Another with a history of high fever and enteritis had been empirically treated in the field with small courses of chloroquine and chloromycetin. On arrival in the ship he was semi-comatose with mental confusion, slow pulse, neck rigidity, flaccid paresis, enteritis and hematuria. As there was an epidemic at that time he was thought to be possibly a case of encephalitis japonica, but he made steady progress and diagnosis was ultimately revised to that of chemotoxemia due to one or other of the above drugs—which one could not be determined. A third patient came on board with a perforating chest wound and haemothorax, and in a state of jaundice. Was this reabsorption of hemolysed blood from the chest? It was later found that the jaundice was actually present on the day of injury and its degree did not increase in the ship. As there were many cases of infective hepatitis it must be assumed that he had this as an intercurrent complication to his chest injury or vice versa, the two conditions together unfortunately proved fatal.

It might be mentioned that one of America's worst enemies is considered to be the ubiquitous jeep. A very large number of injuries received were actually due to road accidents with this vehicle. One man not content with an accident on this scale improved on it by turning over a 2½ ton truck with himself beneath it. This resulted in typical fan shaped haemorrhagic shadows (shown radiologically) spreading from the hilar region of both lungs and coupled with massive haemopericardium. The Deity that seems to look after truck drivers must have helped because he made a complete and uninterrupted recovery.

Many lighter incidents occurred: the man who drank dettol in mistake for lime juice, and was none the worse for it. The man who had been bitten by a dog,—the dog died three days later—he was being evacuated for anti-rabies treatment. The two men being sent back to Japan as they had lost their spectacles and the other who had broken his dentures! It would have been more honest to have given them a different diagnosis. In the same way many casualties with comparatively minor injuries or illness had seized on some obvious somatic sign to cover psychiatric disability. There was the worry of a patient with an abdominal injury who, not content with pulling out his own intra

[illegible] formed [illegible] With the [illegible] and [illegible] and [illegible] suspended from the sick bay deck [illegible] drawing [illegible] stomach [illegible] oxygen cylinders connected to BT B [illegible] crowded [illegible] it was necessary to treat malaria in this rubber forest. The [illegible] Wong, Steve Lerner and Paul were his school friends.

There [illegible] with DDT [illegible] of pediculus patients. There were numerous [illegible] proposals of marriage from [illegible] GIs and the nurses. There [illegible] of [illegible] number of the ships company suffered [illegible] It is the custom of Hong Kong dollar [illegible] changing [illegible] (HK$5.80 = US$1). There was the [illegible] consultant [illegible] that he hurriedly dragged his fiancée to Kowloon and with this span pants in the junker of which was 600 dollars. He [illegible] addressed is Macam. In the USA it appears that Sister [illegible] applied to a member of a religious order or to a lady who is an [illegible] There was the acute disappointment of patients who [illegible] bottles by their bedside [illegible] raised only iced water. [illegible] the nausea is horror of wounds of the head and abdomen inflicted with [illegible] This also occurred under heavy physiotherapy under field conditions which exist in Korea. Medicaments must be throughout. This actually caused a good deal of work. As for the few days patients were in bed the stench alone in crowded wards was sufficient to make a nurse say to take the patient to the [illegible] to remove the very sodden physiotherapy in the new and apparently physiotherapy a double spica is not like having fresh bones. The dental surgeon is still caring for several jaw injuries resulting in the proportion and giving of some 150 pounds for injuries is only a time consuming and exacting task.

Visiting by up patients in their friends in other wards was a frequent [illegible] of them getting a double dose of treatment both to their own and the Sister's chagrin. A cause for Wilhelmina's spasm was an occasional glimpse of another H.M. Ship who we knew was carrying the replenishment of fresh vegetables always at sea and she was travelling in the opposite direction. We would watch her disappear at speed over the horizon. A chain signal from her Commander did little to lessen our thirst. Thomas the ship's grey tabby [illegible] spent all his sea time industriously licking himself clean in readiness for the next arrival he would then daintily pick his way down the gangway and [illegible] the immediate vicinity before going about his own business. He was never identified and invariably returned before sailing time—we feel him will! Our delightful small white kitten paradoxically named Perior from whence she came was tragically lost at sea. She is since been replaced by a very small mongrel [illegible] with a bobbed tail and she is much in need of manicure.

A sidelight on medical welfare is the veritable barrage of news cuttings gradients. We were discomfited upon at interviews by various gentlemen of international repute representing the Press asking for snippets of news value. We

[illegible] of [illegible] by [illegible] [illegible] procedure [illegible] [illegible] keep up [illegible] [illegible] at the [illegible]

Beer has been run long since, we had ordered 4 000 bottles from a South of England brewer of Wine Merchants well known in naval circles. Imagine our overwhelming surprise when we were informed due to a misread signal that no less than 4 000 dozen bottles had been despatched. What were we to do with 48 000 bottles of beer, an aircraft carrier load!

During our many visits to Japan we saw much that was of interest to the sick of us who were seeing the country for the first time. The old capital of Kyoto with its many shrines devoted to the old Japanese way of life* the ruins of Hiroshima from which a new city is slowly rising and the Atomic Bomb Commission's research laboratory. Dwarfed and stunted decorative shrubs and [illegible] the quaint domestic Japanese architecture and the intensive agriculture [illegible] of arable land in an effort to provide food for her many and [illegible] millions. The aftermath of Osaka following a terrible typhoon, the [illegible] Japanese women in their national costume and the Kimono Kids [illegible] clad in their small coloured kimonos and painted wooden sandals with their straight saucer fringed hair cut above their unmoving black eyes. We [illegible] on the way up to Yokohama the Fujiyama volcano an awe [illegible] sight in eruption where through the years frustrated lovers have made pilgrimage to bound their bodies together and committed suicide by leaping into the molten lava there to find happiness in a perpetual Garden of Eden.

I cannot end this narrative without expressing how very much we all appreciated the never failing courtesy, generosity and hospitality of the British and United States communities in Japan.

I [illegible] included in Surgeon Commander R. M. Lana who contributed the [illegible] soft tissues and orthopaedic injuries to Surgeon Lieutenant [illegible] R. R. Bassendine who contributed the note on anæsthesia to [illegible] P. W. Whiting for the considerable amount of clerical assistance [illegible] preparation and to the Medical Officer in Charge for permission to publish this [illegible]

NOTE.—Patients carried in HUMITS. Mine

Day	No. 1	37 to Fukuoka
	No. 2	224 to Osaka
	No. [illegible]	257 to Osaka
	No. 4	280 to Osaka
	No. 5	270 to Osaka
	No. 6	248 to Osaka
	No. [illegible]	254 to Yokohama
	No. 8	279 to Osaka

Total = 1 849

[illegible] preparing this article a further trip of 258 casualties has been made [illegible] the total to 2 107.

*Tokyo, the new capital, owes its name to an anagram of Kyoto.

COMPARISONS OF THE NAVAL, MILITARY, R.A.F AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

PART VIII

BY

Surgeon Captain R. C. MUNDAY, *C.B.*, M.R.C.S., L.R.C.P., R.N. (Rtd.)

My next appointment was rather a surprise. I was to return to my first foreign station this time as Principal Medical Officer. My new shipmates and I were sent out in an older type of cruiser acting as transport from England to Bombay where we turned over to the flagship *Hyacinth* while her people embarked in the transport for the voyage home. One A.B. of this crew requested to be allowed to remain on the Station in the ship. Permission was refused so he temporarily deserted until the transport had sailed and then immediately reported on board his old ship. He received a minimal punishment and was severely reprimanded. He was I think the most consistently cheerful member of the crew, never transgressed in any way and was the life and soul of his mess. I never knew why his request was refused—it seems a pity but imagine it would have upset or inconvenienced the books and their computers. His tragic end is described below.

As soon as I knew I was to go back to the East Indies I determined to qualify for interpretership of the Flagship in Hindustani at any rate and later in Persian if I had the time to study.

I still had my old books and started working at the former language on every possible occasion by the time we had reached Aden I had translated the whole of the "Bagh o Bihar" a Hindustani similated work resembling the "Arabian Nights" which from time immemorial had been set by examiners for my seen prose.

Judge of my dismay when in the club at Aden I learnt that the book had just been changed for a Hindustani translation of Baden Powell's volume on scouting. In a fortnight's time we should reach Bombay a month afterwards we should leave for a cruise in the Persian Gulf. If I did not qualify before we left it was doubtful when I should get the time to study and the opportunity of an exam. Fortunately I was able to borrow the new book and had it secreted about half of it when we arrived. I at once got a *munshi* and inspired him with zeal for success by promises of largesse. I had bad luck with the examiner in seen prose. He selected a passage which I had not reached and had never seen before and I was somewhat at sea but I got through and was appointed interpreter at £50 per annum.

Soon after our arrival at Bombay a world conference of the British Medical Association was held there and I received a copy of the papers read and the

[illegible] I was asked to report on the subject. [illegible] the conference [illegible] the conference [illegible] discussed [illegible] be performed.

[illegible] for resuming [illegible] the epidemic [illegible] the disease [illegible] kept at [illegible] epidemic.

Reports [illegible] the ships engaged in [illegible] the Persian Gulf became increasingly severe.

The Commander-in-Chief [illegible] to be done to [illegible] all supplies [illegible] ships stores [illegible] only [illegible] whose staple diet is rice. I said I had no [illegible] living mainly on polished rice deprived of [illegible] the essential vitamins. The order [illegible] the epidemic ceased except in one [illegible]. When [illegible] I accounted for this isolated future [illegible] pointed out the order. I pointed out that [illegible] doctors could not hope to raise his [illegible] and continue [illegible] the stuff with vigour in finishing his large [illegible] his unpolished rice. As soon as his dissatisfaction had been [illegible] further [illegible] during that year or indeed during the [illegible] in the [illegible] were concerned. But in the year following [illegible] in messing for officers and many of the junior men. The Admiral [illegible] this disproved the theory of lack of vitamins, but [illegible] found actually eaten by the sufferers disclosed that [illegible] issued to forbidden issued in the Persian Gulf was so tough and [illegible] fish, fruit and vegetables so scarce that they had subsisted on [illegible] from the canteen.

These people were already debilitated by the very severe moist heat of the Persian Gulf and had insufficient appetite to enable them to cope with the inferior indigestible fresh food. I suggested that ships serving in the Persian Gulf should receive a special issue of a variety of good frozen meat and fresh vegetables and fruit transported by a first vessel equipped with a refrigerator. As soon as this plan was put into action this epidemic also readily died out.

The flagship arrived in the Gulf in the winter only when the nights were cold and the days tolerable. During the first winter the Admiral initiated a combined operation to destroy the gun running carried on across the borders of northern India. Hitherto this had been effected by ships of the East Indies [illegible] the Persian Gulf and stopping dhows (small Arab sailing [illegible]) and examining their cargoes. No doubt this had hindered the traffic but it was felt that it should be limited to the Gulf and centres where [illegible] and distributed. Accordingly troops of the Indian Army

men embarked in a troopship with their [illegible] and medical supplies.

We escorted the troopship and I had an opportunity of [illegible] to inspect the medical inspection of the organization [illegible]. It was commanded by a colonel who was clearly well [illegible] and all ranks were keen and enthusiastic. I was much impressed by the medical arrangements, especially the well-tried methods of lifting, [illegible] and transporting the sick and wounded over mountainous terrain. Mules with panniers and mules harnessed with cots slung between them. A small mule litter reinforced the splinters and successful rails were made. There were no casualties to speak of. One blue jacket showed their sailors don't care by discarding his boots on the ground that they were impeding his progress. He completed the march as easily as most of the rest of the party and better than many of the combined force. The prestige of the Navy was fully upheld by his action.

On another occasion while the Admiral was absent on shore at a distant part of the Gulf in conference with the political representative in the Gulf, the Flag Captain received information from our spies that there was a vast depot of rifles hidden in the maritime town of Debba which was about to be distributed by mirdand smugglers to tribes on the North West frontier. The matter was urgent and called for instant and secret action. Accordingly on Christmas Eve at 5 a.m. a force of about 100 blue jackets and 50 Marines under the command of the Flag Captain landed in the dark. I received no official information and only those taking part in the expedition knew what was going on. Acting on rumours I had heard I sent the Captain and suggested that a medical party should be included in this force. He told me he was landing an armed party to search the town for arms but there were two reasons why no medical party could go: (1) There would be no fighting and (2) the boats could only just get over the bar in their deeply laden condition so there was no room for probably unnecessary men and stores.

I did venture to point out that an armed party might be resisted as it was well known that there were about 1000 Arabs in the town all of whom possessed rifles. I was kindly and politely thanked and ushered out of the cabin.

I rose, however, in the morning with the raiders and prepared to improvise accommodation for wounded in the sick bay, the foc'sle and the Admiral's empty quarters with all the cots and bedding in my stores and clear a space in the sick bay for the operating tables. All seemed quiet and peaceful on shore until we were sitting at breakfast at 8 a.m. when very brisk firing could be seen and heard in the town, subsequently the Marines could be seen in action on the beach, hastily entrenching and exchanging fire with the houses. We received a signal from the officer in command of them — "Please bombard the north end of the town." Our 6 in. guns destroyed a few houses and the Commander agreed that I should land with a sick bay and in leaving my chief steward to see that all was in readiness. I carried a Red Cross flag and no arms, but received a desultory rifle fire which dropped the

gunshot [illegible] my attendant and I ran up the beach into the Marines little stand entrenchment and all of us lying down I examined and rendered first aid to about [illegible] very badly wounded marines and bluejackets Old-fashioned rifle bullets had shattered bones and torn such gaping holes in the soft parts that it seemed as if explosive missiles had been used One young seaman tortured by multiple wounds had staggered into the water to gain protection, but he was still a target When he was rescued and carried into our shallow entrenchment he was blanched with haemorrhage quite unconscious and half drowned Pulseless he appeared to be beyond help, so I turned to arresting haemorrhage and administering morphia to the others The Marine Officers told me that they were engaged in searching a part of the town some distance from the Captain and his sailors when they were suddenly surrounded and attacked by overwhelming numbers of armed Arabs so they collected their men fought their way back to the beach and entrenched there Meanwhile the Flag Captain with the larger contingent had forced his way into the palace and courtyard of the Sheikh of Debbai making that gentleman his prisoner He then said If you do not instantly order all firing to cease I will order my ship to blow the town to pieces By this time the 6 in gun had demonstrated its value as a peace maker and the Sheikh complied The Captain then withdrew with the wounded to the beach and we re-embarked with the guns that had been found buried under the houses

The rest of that day and night and Christmas Day I spent dealing with the wounded It was very unfortunate that my gifted junior Staff Surgeon had been isolated on an island with a number of cases of German measles long before there was any suggestion of a search of Debbai but until his return my chief sick berth steward was an invaluable unqualified assistant When the most urgent cases had been dealt with I had a look at what I thought must be the dead young seaman but I found him alive and his pulse just palpable There were compound fractures of both forearms and one thigh, besides multiple flesh wounds all soaked in salt water He was still unconscious thus needing no anaesthetic Haemorrhage was delayed by his collapse and coagulation had time to stop it

On Boxing Day the Commander in Chief got into communication with the Flagship and ordered his quarters to be prepared for himself his staff and the Political Agent as they were coming on board to dictate terms to the Sheikh He was informed of the serious condition of the wounded occupying his quarters and of the lack of ventilation and space in any alternative accommodation but he repeated his order and the Captain informed me I suggested that if the wounded could be left until the Admiral arrived he would be convinced and the Captain very nobly agreed although pessimistic

The Admiral however was adamant but the Wardroom Officers voluntarily vacated the whole of their accommodation until a R I M troopship arrived and was fitted as a temporary hospital ship The Admiral ordered this ship to convey the wounded to Karachi the nearest place with a well found hospital but I submitted that as there was a five miles distance from

the Port of Karachi [illegible] hospital the land transport would be deleterious and dangerous to the [illegible] while water transport would be arranged all the way to the military hospital in Bombay which is on Colaba Point.

In smooth water and under my Staff Surgeon's excellent attention they arrived safely and when the Flagship followed I was able to visit them and watch their progress to recovery. Two months later we were ordered to take them home in the flagship as our time was up. I represented to the Admiral that on a long voyage to England I could not be held responsible for the best treatment of the wounded unless they were housed in the well ventilated Admiral's quarters. He said he was remaining on the Station and I must arrange the matter with the Captain who afforded me all the accommodation I needed. All eventually recovered with their lives but with loss of limbs and lameness in the less fortunate.

The Captain of Marines received the *DSO* and other officers were commended. I was very glad that the Flag Captain who showed his willingness to take responsibility and his ability to extricate his men from the midst of a ferocious-armed host with safety did not personally suffer for his mistaken view that there would be no fighting.

I should have mentioned that the terms dictated to the Sheikh for resisting our search and for the discovery of hidden arms were (1) A British wireless station and Post Office to be established in the town. (2) all rifles to be surrendered. (3) an indemnity to be paid. The Sheikh observed "I agree because I must but I hate you British."

About the middle of the commission the flagship visited Ceylon and while she was being overhauled half the ship's company was sent up in the hills to Diyatalawa, a plateau where Boer prisoners had built their encampment for the duration of the last Boer War. It was now to be utilized as affording all hands a refreshing change of air. The nights were cool, the days akin to a rather hot English summer and the mountains invigorating and refreshing in the lovely views, but there was one very serious drawback to our comfort if not to our health. The place was infested with vicious biting mosquitoes. The act of taking a garment off a peg in the daytime would stir up a cloud of these pests.

Luckily there appeared to be no Anopheles but the Admiral decreed that they must be exterminated. I cast my mind back to my time in the *Retribution* when I had seen Colonel Gorgas of the United States Medical Service ridding the Panama Canal zone of mosquitoes and I copied his method with to me astonishing success. As soon as the camp was evacuated I had all buildings sealed with paper and fumigated with burning sulphur. That presumably killed the adult pests. Then I set to work with a party of 30 men put under my executive command to drain the whole camp by cutting feather stitch ditches leading into a main ditch which terminated on a steep mountain side. At first my gang composed mainly of Maltese and Chinese bandsmen and stewards politely but firmly declined to spoil their hands dedicated to music and other gentlemanly occupations by heavy work

in only [illegible] In vain I pointed to the jungle land but [illegible] cleansed of mosquitoes [illegible] personally were indifferent to mosquitoes but were very anxious [illegible] and then spoil stuff. I pointed out that I too had to be cured [illegible] my hands and my work but I [illegible] to dig with them. Thus they plainly did not believe, so I got out my Bible and read to them in my deepest [illegible] 'Death is such a punishment' and gave them fifteen minutes to think it over. After five minutes of agitated consultation they unanimously broke the strike and I never had any more trouble as a temporary executive officer. I think they were pleased as I was when the sluice of the main drain was opened and the water poured down the mountain side in the plain below in a pretty waterfall of our own making. Of course there were some marshy pockets left but these were sprayed with the same insecticide used by Colonel Gorgas with the same result, the surface of the water was covered by a cream coloured film, the larvæ were forced to rise in the deadly film to get air and were poisoned to death. The remarkable thing was that although adult insects could not all have been destroyed, the eggs they laid on the surface of the water were probably all destroyed or else the adults intuition made them decide en *masse* that Diyatalawa was an unhealthy locality for they soon disappeared for the rest of my time on the Station, and more surprising I heard from my successor that he found the camp still quite free of these pests.

Our next move was round the coast to the old naval Port of Trincomalee where we were to reopen the closed Dockyard and the Naval Hospital for which purpose I was bringing the necessary stores. *En voyage* a case of acute appendicitis occurred in a young seaman. After careful examination and consultation with my most gifted young colleague Surgeon Hearn we decided to postpone operation until arrival at Trincomalee and opening of the hospital. Arrangements for the latter were hastened and I operated the same evening at the hospital assisted by a young R.A.M.C. officer of great surgical skill. The appendix was gangrenous and a tube inserted. After a long convalescence he made a good recovery in spite of a faecal fistula persisting for a time. The hospital had a brand cool verandah on which all serious cases had their cots permanently installed. As it faced the beach at a sufficient height it could not be overlooked—open air treatment in fact in a modernly warm climate. I thoroughly enjoyed my rounds in such an atmosphere so infinitely superior to that of heaved decks.

I lived in comfortable quarters on the ground floor and my colleague lived on board attending to the fresh cases and sending selected patients to the hospital. He was always readily available to assist me when necessary. No [illegible] had a more loyal or able colleague than I had in Surgeon Hearn. It was a great help when I had to unfold him after a first and unexpected attack of hæmoptysis.

We had one sad disappointment. A young stoker went down with enteric fever and had so far recovered that his temperature had fallen by lysis to normal for ten days and he had gradually attained to almost full diet but

[illegible] truly warning [illegible] additional food [illegible] from [illegible] the [illegible] sick berth steward [illegible] and died before we could consider a lapsirot my [illegible] perfin [illegible]

I have happy memories of three spent at Trincomalee and [illegible] on a cruise round Ceylon, [illegible] while at Madras where I met [illegible] contemporary student in Paris then a Lieutenant Colonel [illegible] Medical Service and Surgical Specialist who recently [illegible] Major General. We had a jail together for most of our [illegible] Service ones and I had not seen him for twenty years.

From Madras we went to the Andaman Isles. The sailors were [illegible] disappointed on this visit as rumour the lying pilot had spread [illegible] the lower deck that the inhabitants male and female were [illegible] whereas by the time we got there the fashion had been changed. What was interesting about the natives as distinguished from the [illegible] in the penal settlement was that the former have no resemblance either in manners of India Malaya or China but were of the same type as Australian aborigines. Prisoners undergoing life sentences could by good conduct over a long term of years earn a job outside the prison as agricultural labourers or servants of the officials. Several of the Governor's servants were convicts.

We moored off to Rangoon where we stayed a week in the days. The current on the river was so strong that our steam launch used to make the trip to and from the shore with difficulty. From Rangoon we sailed for Sourabaya where we found war was in progress against the so-called Mad Mullah and his followers. At the time [illegible] had not yet had any use in warfare and it was difficult to assess his contempts in rounding up the Sourabaya guerrilla travelling swiftly over or here fort living sparsely but according to custom and fed sufficiently for long marches. They knew where to find the chain of wells in the desert and had need of very little of any transport. The result was the usual one in guerrilla warfare a protracted hunting of a [illegible] seen and highly mobile warlike foe with little solid achievement. The usual cricket football and physical tennis and cricket but there was a probability that we would be sniped or kidnapped if we were not careful and vigilant. I was impressed by the good discipline intelligence and smartness of our [illegible] troops. As soon as the complaint came into action the war ended.

Such were the extraordinary rules governing the presentation of medals that I later received the Sourabaya Medal although I never heard a shot fired simply because I landed in the area where the war was in progress whereas the Persian Gulf Medal was not conferred on me for many years after I had part in other service there.

Passing through the Red Sea on the way home in the *Hyderabad* on a lovely day and sparkling waters in a blue sea I was sitting in my cabin writing up the letters and throughout most of the part listening the while to the happy singing and whistling of a seaman sitting on a bollard slung over the side while he scraped and painted. Suddenly I heard him shout in [illegible] and

then a splash. I ran [illegible] in the wake. In an [illegible] the ship was stopped and the sea boat away. I felt sure he would be picked up, but all they found was the hat and my old envelopes. Of course, the ship was turned round and very slowly moved back on her course. At the inquiry I was able to testify that just before he fell he was happily singing, so suicide was ruled out. He would not have died if he had put on a bow line to go over the side. I felt sorry for the officer responsible for the safety of men sling over the side. I imagine that the seaman was getting up into a standing position and lost his balance or that he caused his platform to tilt. I think too that he must have been struck on the head by the starboard propeller as no sign of blood from shark bite was seen. This man was the same who had on shore at Bombay in order to remain on the station when he was due to go home in the ship we relieved. On our arrival at Sheerness I was met by my wife and we stayed for a day or two at the same hotel from which I had set out to join the *Plassy* on my first commission abroad. Although I did not expect it this last foreign commission turned out to be my final banishment from home and family.

I got leave and took my wife up to see the Director General Sir James Porter. He was most kind and told me I was to go to Greenwich Hospital School and College as soon as my month's foreign leave had expired. We immediately went down there to have a look round and called on the Captain Superintendent Cooper Key and his charming wife. We were delighted with everything and everybody we saw there. I was allowed to turn the business of paying off over to my assistant a particularly able Staff Surgeon and to proceed on leave to my home in Plymouth.

I completed my Journal while on leave on Dartmoor so as to be free to devote as much time as possible to my new job. I had been in the second place in the previous competition for the Gilbert Blane medal so I naturally put all I knew into this Journal and to my great joy achieved the medal. My old father a veteran of forty years in the Peninsular line had always hoped for my success and was at least as pleased as I was.

(To be continued)

Clinical Notes and Cases

MALDEVELOPMENT OF THE MANDIBLE RESULTING IN GROSS MALOCCLUSION

BY

Surgeon Commander (D) W. L. MOUNTAIN, R.N.

AND

Surgeon Lieutenant-Commander (D) E. B. C. CLIFF, R.N.

The accompanying photographs of models taken from a candidate for entry into the Royal Navy illustrate dramatically the results of maldevelopment of the mandible resulting in gross malocclusion.

The candidate, aged 17 years 6 months, height 5 feet 8½ inches, weight 11 st. 10 oz., is of good physique and obviously well nourished in spite of lack of normal molar occlusion.

The two positions of attempted bite are shown in figs. 1 and 2. Fig. 1 shows the normal bite used in which there is functional apposition between $\frac{7\ 5\ 4\ 3}{7\ 5\ 4\ 3}$ with nothing on the left side. Fig. 2 shows an alternative bite with functional apposition only between $\frac{5\ 4\ 3}{5\ 4\ 3}$ and between distal and mesial cusps

Fig. 1

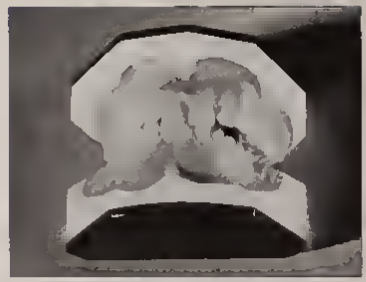

Fig. 2.

Fig. 3.

[illegible] It was at first thought that these lines were due to lines of [illegible] in mount [illegible] superimposed in relation to [illegible] but this was ruled out [illegible] study of the model which showed asymmetry of the jaws and [illegible] of the [illegible] in the premolar and molar region on [illegible] the maxilla.

[illegible] considering that the deformity and maldevelopment occurred [illegible] not his [illegible] been corrected by early application of forceps at birth. The [illegible] is [illegible] that the premolar teeth are like in this case the possible [illegible] of such maldevelopment.

Our thanks are due to Mr. A. C. Dowell, L.D.S., Naval Dental Consultant, for the publication of the photographs and some of the details of this interesting case. [illegible] Naval Dental Service and was [illegible] Medical Department, Admiralty.

A DENTAL CYST

BY

Surgeon Commander (D) L. A. MOULES, R.N.

This dental cyst in the upper jaw is interesting in that it had [illegible] the bone of the hard palate and produced a fluctuating swelling, the [illegible] which is shown in the photograph of a model of the mouth (fig. 1). The X-ray (fig. 2) shows the extent of the bony involvement.

The left central and lateral incisor were involved and were not vital. There was very little expansion of the outer alveolar plate.

Approach to the cyst was from the buccal aspect where the bone was found to be thin. No detachable cyst lining could be demonstrated.

The cyst cavity was marsupialized through a large opening made in the outer alveolar plate which after preliminary packing was fitted with a part vulcanized rubber obturator.

Fig. 1.

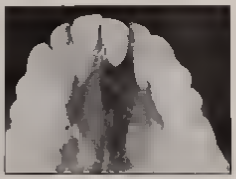

Fig. 2.

SEVERE HÆMORRHAGE FROM ULCERATION IN MECKEL'S DIVERTICULUM

BY

Surgeon Commander J. A. PAGE, R.N.

This case is presented because it is felt that the condition is unusual yet it should be considered in the differential diagnosis of intestinal Hæmorrhage.

[illegible]—Boy, Bright, aged 17 years 6 months. This patient was admitted to R.N. Hospital Portland on 21st September 1939 complaining of diarrhœa [illegible] for three days duration accompanied by [illegible] and [illegible]. He had been admitted to the Sick Bay H.M.S. *Heron* some days before [illegible] for [illegible] quinsy and had blood *per rectum* and vomited [illegible] blood. He was transferred to hospital as appears [illegible].

On [illegible] he was pale but about a week previously he had experienced [illegible] and giddiness. For this before admission he had taken [illegible] and had vomited [illegible] which appeared in contrast dark blood. *F.H.*—Apart from diabetes of a nephritic kind he had always been well. *N.H.*—[illegible] abdominal pain. The family history was negative. *O.E.*—A healthy looking well-nourished lad but markedly pale and [illegible]. Pulse [illegible] temp. 98.6. He was sweating slightly and the skin was [illegible]. He had had a very bad night, a considerable quantity of blood [illegible]. R.S.—[illegible] dark blood with an idiomatic odor of blood [illegible]. There was slight tenderness below the umbilicus. No gastric [illegible]. The spleen was not palpable and there was no adenopathy. The gums and [illegible] were healthy looking. The blood count was 19,350 per c.mm. [illegible] Hb. (Palmer) 61.0%.

Medical opinion was that [illegible] was a peptic ulcer. The morphia [illegible] was discharged. He had vomited once but no blood. He was [illegible] and [illegible]. The pulse rate varied between 90 and 96. A provisional [illegible] was made.

[illegible] bleeding, tarry stools were [illegible] and blood clotting time were [illegible]. A differential count showed 70 per cent polymorphs and 15 per cent lymphocytes.

On the 23rd September (the third day) vomiting had stopped and the bowels had not opened. The white cell count was 11,900 and R.B.C. 2,320,000 per c.mm. Hb. 46 per cent. He was generally considered improved.

On the fifth day the bleeding had ceased and a small glycerine enema produced an enormous stool of black stool. On the eighth day the R.B.C. was 3,210,000 per c.mm. but subsequently there was general and rapid improvement.

On the seventeenth day R.B.C. 3,640,000 per c.mm. and he felt quite well. A radiograph taken at this time showed no abnormality.

A barium meal test given on the twenty-first day which showed no evidence of peptic ulceration, no filling through the pylorus and large bowel filled normally. The appendix was clearly demonstrated. At two hours post meal a shadow resembling an appendix shadow was seen near the terminal ileum but the line was centred the cæcum which suggested a Meckel's diverticulum (fig. 1).

He was discharged [illegible] on this sick line on 24th October with instructions to return to hospital for further investigation. When seen in mid-November he was quite well and had had no recurrence of his trouble.

Fig. 1a

Fig. 1b

[illegible] symptoms and a mass of abdominal origin [illegible] was ruled out by repeated [illegible] that [illegible] was indicated in view of the [illegible] (9th November 1950) under nitrous oxide [illegible] was made and [illegible] three quarter inch [illegible] inches long [illegible] was secured [illegible] A [illegible] was divided. The [illegible] A normal appendix was [illegible] than a quarter inch in diameter [illegible] the [illegible] was [illegible] the [illegible] The [illegible] examined [illegible] belonged to the [illegible] first six [illegible] months old.

Discussion

Meckel's diverticulum is said to occur in between 0·8 and 4 per cent of the population (Christopher 1942 and Boyd 1947). The majority of authors quote figures near the lower of these estimates.

The diverticulum, the persisting vitello-intestinal duct which connects the yolk sac with the mid-gut, was first described by Meckel in 1809. It should become obliterated in the first six to eight weeks of intra-uterine life. In some cases the portion between the mid-gut and the umbilicus does not degenerate and leaves, broadly, one of three conditions. Wilson (1942) classified the types as follows:

(1) Common [illegible] the umbilicus and [illegible] or as an umbilical sinus

(2) Umbilical portion of the duct present

(3) Intestinal portion of the duct present

The last persisting is a pouch on the [illegible] the term is the commonest and is the cauda [illegible] Meckel [illegible] usually funnel shaped varying in length [illegible] the [illegible] rarely reduced to a short conical bulge. The [illegible] type [illegible] in contrast with that of the duct.

Origin almost always lumbar in position and [illegible] in the cases in most instances where some pathological change exists. Cases of [illegible] or pouch are rarely found.

The variation and extent of the pathological process in the cases under review alteration depends on whether [illegible] particular the [illegible] the diverticulum is lined by aberrant mucosa (Strong and Nichols 1943). The authors illustrate the relative [illegible] figures by Cubbi (1936) in the accompanying [illegible] fig. 21

[illegible] Diagram showing the [illegible] Meckel [illegible] Surg. Gynec. & Obst. 1943)

Malignant [illegible] is far the rarest [illegible] and was studied by [illegible] and Franke (1938) [illegible] of diverticula. Hodgson and Lipsh (1949) found gastric mucosa in 50 [illegible] 23 cases which had [illegible] pathological [illegible] associated with the [illegible] and Rosner (1943) found heterotopic mucosa in [illegible] cases of this lesion. [illegible] and central and [illegible] 75 per cent of the cases having hemopoietic cells.

[illegible] the [illegible] of the diverticulum and [illegible] goes in gastric peptic ulcer. It is [illegible] the result [illegible] of the mucosal mucosa by the secretions of the [illegible] cells.

Perforation may be followed by rupture of a vessel or [illegible] intestinal [illegible] a perforation with [illegible] is often difficult to differentiate from a

perforated peptic ulcer [illegible] appendicitis [illegible] being discovered [illegible]

Other pathological [illegible] diverticulum are in order of frequency [illegible]

(1) [illegible]
(2) [illegible]
(3) [illegible]
(4) [illegible]
(5) [illegible]

Obstruction is due to [illegible] guilty [illegible] attached to the umbilicus [illegible] the cord [illegible] been recorded [illegible] due to a Meckel's diverticulum

The other conditions are infrequent and are more or less [illegible] Intussusception has [illegible] been recorded on [illegible]

In reviewing the literature little reference has been found to pre-operative radiological diagnosis [illegible] (1926) seems to have been the first to demonstrate a diverticulum [illegible] due to the fact that the [illegible] are not submitted to a gastro-intestinal series either owing to the urgency of the condition or in cases being accepted as appendicitis without further investigation

The case under review was X rayed some weeks after the hemorrhage had ceased in exclude duodenal ulcer and the diverticulum was quite clearly demonstrated (fig 1) and permitted a reasonably confident diagnosis which was confirmed at operation

SUMMARY

A case of massive hemorrhage from a Meckel's diverticulum is presented. The various aspects of the pathology of conditions [illegible] the diverticulum are discussed and attention is drawn to the [illegible] of urgent pathological change occurring in a high percentage [illegible] which must be considered in the differential diagnosis of the [illegible] surgical emergencies

I wish to thank Surgeon Captain T N D Arcy C B E R N for permission to publish this case

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MYCOTIC ANEURYSM OF THE SINUS OF VALSALVA IN A CASE OF SUBACUTE BACTERIAL ENDOCARDITIS

BY

IAN MACKENZIE, M.B., B.S. Lond.

Pathologist, Derby No. 1 Management Committee

(*Formerly Temporary Surgeon Lieutenant Commander, R.N.V.R., Specialist in Bacteriology*)

Mycotic aneurysms occur fairly frequently as complications of subacute bacterial endocarditis, and although it is not rare to find one in the aorta or [illegible] and mitral valves, it is distinctly uncommon to find one in the sinus of Valsalva in the root of the aorta burrowing its way for a considerable distance into the interventricular septum. Such an aneurysm probably serves as a nidus for infected material as it is lined with infected clot, and in this way may be responsible for a continued pyrexia and the occurrence of infarcts although the original valvular vegetations have healed and probably become calcified.

Such lesions are more common in civilian than in naval practice, because the Service discharges as medically unfit those men who develop cardiac lesions following rheumatic fever. The case to be reported is not without interest in this respect, as the original illness began during war service in the Royal Navy and it is felt that the presence of an unusual type of lesion may enhance the general interest in the case.

Case History.—R. J. B., aged 30. This patient served in H.M. Minesweepers during the 1939–45 war as a cook. In May, 1945, he developed acute rheumatic fever and was subsequently invalided as medically unfit for further service because of mitral regurgitation. He left Royal Naval Auxiliary Hospital, Shoeburyness, in September, 1945. Since his discharge from the Royal Navy he resumed his work as a baker but was frequently off work for lasting periods because of swelling of the legs and shortness of breath. For about [illegible] weeks prior to admission he complained of increased tiredness and in the last [illegible] weeks he had observed that his temperature rose at night and he sweated considerably. At the end of April, 1950, he noticed that he was additionally bloated, and his boots had changed in shape. He had not observed a similar change in his shape, but this was felt to be not thought to be of [illegible]. On 5th September, 1950, he was admitted to hospital.

On Examination.—He was apyrexial on admission but his pulse was 112 per minute. His skin was cold and clammy and he was slightly cyanosed although his respirations were 24 per minute. There was gross clubbing of his fingers and toes and he had many scattered petechiae over the abdomen.

His blood pressure was 115/30 and the pulse was regular but of the collapsing type. The apex beat was 4½ inches out from the midsternal line in the fourth interspace. There was detectable cardiac dullness ½ inch to the right of the sternum. There was a medium-pitched blowing apical systolic murmur and an accompanying thrill. The second pulmonary sound was accentuated. There was an aortic systolic and diastolic murmur of coarse quality down the left side of the sternum. There was no engorgement of the jugular veins in the neck but there was a minor degree of sacral oedema.

The respiratory system showed only impairment of percussion note and diminished air entry at the left base.

[illegible]

[illegible]

[illegible] Blood picture [illegible] The patient's [illegible] 5,200,000 per [illegible] 80 per cent. compared [illegible] polymorphs [illegible] persisted [illegible] 26th September [illegible] of 14 grm. per [illegible] 4,000 per [illegible] of which [illegible] neutrophil [illegible] per cent. [illegible] monocytes and 1 per cent. eosinophils.

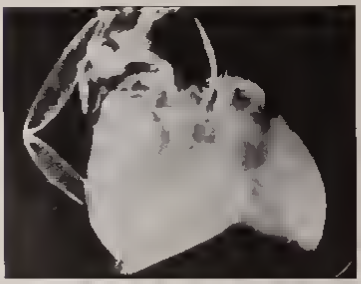
The erythrocyte sedimentation rate (Westergren) [illegible] the date of admission and the highest level attained [illegible] The Kahn [illegible] on 26th September [illegible] Wassermann and Meinicke [illegible] negative.

Progress and Treatment.—He was not given any penicillin [illegible] week after admission while investigations were proceeding [illegible] temperature up to 101° F. On 12th September he [illegible] four-hourly and the dose was increased [illegible] 1,000,000 units every six hours. At this stage he [illegible] so that he felt and looked better but there was still [illegible] evening, up to 101° F. [illegible] from the blood culture he was [illegible] and the penicillin was withheld. On 29th September [illegible] grm. three times daily but the rise in temperature each evening [illegible] On 6th October he was then placed on 580 mg. of [illegible] receiving this dosage until 11th October when he died rather suddenly.

Post-mortem Report.—Post-mortem examination [illegible] hours after death. He was a young adult of 35 years of average height [illegible] There was marked clubbing of fingers and toes. Rigor mortis was [illegible] and there was considerable dorsal hypostasis. Œdema of the scrotum and legs [illegible] found. The scalp and skull were natural. The brain and meninges showed no gross pathological lesions apart from generalized hyperæmia.

There were 8 oz. of green clear pericardial fluid. The heart [illegible] (fig. 1) and weighed 21 oz. when emptied of blood. There was dilatation of the left ventricle with an accompanying hypertrophy of the wall of the ventricle [illegible] The mitral valve admitted two fingers easily and showed no [illegible] The free edges of the valve cusps were natural and the chordæ tendineæ were not shortened or thickened. The aortic valve was markedly stenosed [illegible] of the cusps. The diameter of the valve orifice was 0.5 cm. and it cannot be said that the

[illegible]



[illegible]

[illegible]

Comment

The final attack of rheumatic fever [illegible] which led to his discharge from the Service. The pulmonary [illegible] by this attack was probably wholly valvular and [illegible] vegetations on the line of closure of the valve. The development of the mycotic aneurysm of the sinus of Valsalva leads us to an interesting sequence of events upon which there is not universal agreement.

Some authorities hold that the subsequent complications around the valve orifice come from bacteria brought into the substance of the valve or valve ring from the coronary circulation. Others discount this view by pointing out that although the coronary arteries supply both the aorta and the pulmonary artery, implantations of bacteria on the aortic valve may give rise to others on the aorta but never on the pulmonary artery. The case under discussion demonstrates this point. The gross aortic stenosis is accompanied by an old rupture in the right posterior valve cusp, which had in turn developed from a mycotic aneurysm of the valve cusp. This type of perforation is due really to a thinning and stretching of the valve resulting from continued trauma along the line of closure. The valve has already been affected by bacteria which have lodged there and caused initial erosion of the endothelium, so that the area is a suitable site for the development of an aneurysm from further damage. In a similar way implantations on the aortic valve may cause erosions in the aorta and in the sinus of Valsalva. This complication is greatly facilitated if one cusp of the valve is loose and flaps about with the movement of the column of blood passing it, in which case it usually impinges upon the sinus. Later when reparative fibrosis has caused the valve to contract and stenosis is the apparent, it is not easy to visualize the train of events in the causation of the aneurysm, and it should be remembered that aneurysms do occur despite the continued treatment of subacute endocarditis with penicillin. Close *et al.* (1948) reported a case of mycotic aneurysm of the sinus of Valsalva while the patient was under three months' treatment with penicillin. It is most unlikely that the aneurysm in the case here reported developed during the six weeks in which he was under treatment. The development of clubbing of the fingers may have heralded the onset of the aneurysm, in which case the patient noticed it twenty weeks prior to admission.

It is possible, however, that the chain of events in his case was not wholly due to a loose valve flap impinging on the sinus. The degree of stenosis was so extreme and the valve so incompetent that the column of blood passing through the valve must have been forced through like a jet from a small nozzle of a hose pipe, and the force of this jet may have accelerated the excavation of the wall together with the column of blood regurgitating

through the [illegible] in [illegible] It [illegible] the [illegible] sinus of Valsalva [illegible] [illegible]

This [illegible] the typical [illegible] and absolute [illegible] which been [illegible] in subacute bacterial endocarditis The continued [illegible] of the organism from blood culture is probably due to taking the [illegible] at inopportune times or to the bacteria having been completely buried in the depths of the valves The best time would appear to be immediately after an infection had occurred when there is an exposed area on the valvular or mitral vegetation

It is interesting to observe that an electrocardiograph made on the morning of the day on which he died does not give any definite clue towards recognizing the possibility of an aneurysm

It is also apparent that treatment with a series of antibiotics had no effect on the course of the disease

Summary

A case of subacute bacterial endocarditis is described in which a mycotic aneurysm of unusual size and shape had developed in the sinus of Valsalva The possible sequence of events in its development is discussed and the failure of the case to respond to antibiotics is recorded

Acknowledgments

It is a pleasure to express my thanks to the Editor of the Royal Naval Medical Journal for publishing this case Many temporary officers such as I owe a great deal to the Royal Navy for our present professional positions I would like to record my thanks to Dr D V Hubble M D M R C P under whose care this case was and to Mr G Fayers of the Photographic Department of the Derbyshire Royal Infirmary who took the photographs and by whose skill the X rays are reproduced as if they were reduced photographs

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POSTURAL DRAINAGE

by

PATRICIA GUNN, M C S P

Physiotherapist to R N Hospital Plymouth

This is a method which can be used in thoracic conditions such as bronchiectasis chronic empyema lobar pneumonia lung abscess and post operative chest complications to drain the lungs by expectoration of mucous deposits thereby regaining full expansion of the alveoli

In order to obtain satisfactory results it is essential to know the precise

[illegible] drainage depends [illegible]

[illegible] in the prone position [illegible] in the rest of [illegible] run from the [illegible] by having the patient [illegible] under the abdomen [illegible] depending upon the [illegible] possible and able to [illegible] twice [illegible] patient is in this position [illegible] the lower thoracic [illegible] gently [illegible] the patient can [illegible] such may [illegible]

[illegible] patient to lie [illegible] the left lobe [illegible] the left arm [illegible]

[illegible] and the

Position [illegible]

[illegible] position [illegible]

R[illegible] Left Upper Lobe. [illegible] drained by [illegible] lying horizontally [illegible] over the [illegible] being upper [illegible] around the [illegible].

Posterior Segment. The patient lies on the [illegible] under the [illegible].

[illegible] If the

D[illegible] for [illegible] to [illegible]

P[illegible] for draining left upper lobe and axillary segment.

effusion is [illegible] the patient is slightly inclined backwards [illegible] if the effusion [illegible] posterior segment the patient leans [illegible] percussion [illegible] over the corresponding areas

There are [illegible] positions for drainage Modification may be necessary in [illegible] perforative collapse owing to other injuries which may [illegible] if extra stress to the patient is to be avoided

Fluid [illegible] treatment for this is slightly different from the other [illegible] [illegible] implies that the exact locality of the abscess [illegible] otherwise the infection is liable to spread to [illegible] uninfected lobe [illegible] in faulty position during treatment (the same positions as mentioned above are used) Percussions *only* are given in this [illegible] breathing exercises and shakings on the thoracic wall are contraindicated

Finally following postural drainage the patient must be instructed to maintain a good posture Chest disease is usually unilateral so that the balance of expansion is upset with the result that the body takes on a postural deformity In some cases this is only slight but in others it can become grotesque if no correction is made

A CASE OF ANCYLOSTOMIASIS

By

Surgeon Commander J G GENT, R N.

Hookworm infestation is rare in the Royal Navy and Royal Marines I [illegible] perused *The Health of the Navy* for the years 1934 1935 and 1936—the volumes of this publication which are available to me at present and the [illegible] of this hospital without finding a single case mentioned

The following case is published as a reminder that it is well to think of [illegible] anemia in any obscure case of microcytic anemia

Case History.—A Sergeant Royal Marines aged 28

[illegible] was admitted into hospital from the Commando School at Bickleigh on [illegible] September 1936 with the following history Towards the end of July he began to [illegible] breath on exertion it became progressively worse Early in September he experienced pain in both thighs during a speed march—which is an affair of up to nine miles [illegible] an average of one mile in ten minutes running and walking alternatively

On 9th September he reported sick and was found to be anæmic his blood count being

R B C	3 680 000	Polys	40 per cent
Hb	66 per cent	Lymphos	45 per cent
C I	0 92	Monos	11 per cent
Leucocytes	5 400	Eosinos	4 per cent

Slight anisocytosis

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible] per cent
[illegible]	[illegible]	[illegible]	6 per cent
[illegible]	4 [illegible]	[illegible]	20 per [illegible]

Next [illegible] was admitted to hospital

On admission he gave the [illegible] history [illegible] had been excised [illegible] increasing, and [illegible] memory was becoming [illegible]

His [illegible] was increasing [illegible] at the beginning of the war he was at [illegible] of After [illegible] in camp for [illegible] Mombasa [illegible] 1944 he was in camp at [illegible] of hospital [illegible] work in the [illegible] the Burma

In 1944 [illegible]

	10 7 [illegible]	[illegible]	30 4 [illegible]
R B C	4 700 000	[illegible]	10 000
Hb	79 per cent	81 per cent	[illegible] per cent
C I	0 81	0 85	
W B C	6 000	6 200	10 [illegible]
P M	67 per cent	43 per cent	
Lymphs	1 per cent	48 per cent	
Bas	1 per cent	0	
Eosinophils	30 per cent	22 per cent	
Monos	1 per cent	per cent	

The [illegible] undertaken after admission

P C V	37 c c per 100 ml
MCH	89
MCHC	26

A [illegible] meal showed a complete achlorhydria

On 16th October the [illegible] stomach was distended [illegible] was [illegible] vas [illegible] containing calcium lactate and sodium [illegible] on 18th October

Trichloroethylene	drs [illegible]
Oil chenopodii	[illegible]
Paraffin liq	[illegible]

followed half an hour later by [illegible] sulphate [illegible]

Two days later [illegible] November [illegible] intravenously [illegible] pass [illegible] He [illegible] after the [illegible] pleurisy [illegible]

R B C	[illegible] 000 per c mm	P M	61 per cent
Hb	96 per cent (13 74 gm)	Lymphs	[illegible]
C I	0 95	Monos	2 per cent
Leucocytes	5 000 per c mm	Eosinos	1 per cent

and on 6th November

R B C	5,600 000 per c mm	Lymphs	[illegible]
Hb	118 per cent (16 28 grms)	Monos	[illegible]
Leucocytes	5 600 per c mm	Eosinos	[illegible]
Polys	55 per cent	Basos	1 per cent

SUMMARY

[illegible] unknown disease due [illegible] tion with [illegible]

[illegible] their attention to his [illegible] was a mistake in [illegible]

[illegible] rapid

[illegible] for several years [illegible] probable that he [illegible] in Ceylon [illegible] five years before [illegible]

[illegible] Admiral W J C [illegible] for permission to [illegible]

Correspondence

DEAR SIR,

We [illegible] subscription list with a view to purchasing wall plaques o[illegible] of units of the Universe Medical and Dental S[illegible] Britain and Ireland. These cost approximately 27s 6d each. Contributions however small from medical and dental officers R N and R N V R especially those who have attended courses here would be most welcome.

Yours faithfully

J G HOLMES,
Surgeon Captain R N,
Medical Officer-in-Charge

R N Medical School
Alverstoke Hants

Reviews

VENEREAL DISEASE IN THE NEAR EAST By H S Leeson F R C S W H R Lumsden B Sc M B Ch B D T M & H J Yofe M D D T M and T T Macan M A Ph D F R I S London School of Hygiene and Tropical Medicine Memoir " First Edition 1950 Pp xii + 233 Illustrations 73 London H K Lewis & Co Ltd Price 35s

This is the first Memoir to be published by the London School of Hygiene and Tropical Medicine since 1937 The information it contains is based largely on work carried out by Malaria Field Laboratories of the British Army in Transjordan Syria and the Lebanon and Iraq and North Persia These areas which form a land bridge between Europe and Asia are of great strategic importance It was therefore military requirements which

[illegible] … have wished. [illegible]

[illegible]

The [illegible]

[illegible]

CHILD'S SKIN DISEASES [illegible]
Pp. 505. Illustrated [illegible]
Ltd. Price 35 [illegible]

The ninth edition [illegible] which has become [illegible] an increase [illegible] The general arrangement [illegible] divided [illegible] chapters and [illegible] comprehensive index. [illegible] basis for the [illegible]

The principal [illegible] of paragraphs dealing [illegible] the antihistamines, B.A.L. [illegible] have been added [illegible] penicillin and [illegible] of streptomycin in intractable [illegible]

Although this book [illegible] all the more common diseases [illegible] with, and for practical purposes [illegible] General Practitioner is very unlikely ever to encounter.

When reading this book [illegible] giving one the benefit of his personal experience [illegible] treatment and he does not hesitate to [illegible] fashionable [illegible] the attitude of the patient to the [illegible] the possible consequences [illegible] his [illegible] comment and criticism.

The layout, print and illustrations [illegible] and the book [illegible] the premier [illegible] adequately with such problems [illegible]

ENGLISH CHINESE MEDICAL DICTIONARY By L S Schinnerwald M D Berlin 1951 Pp 242 London H K Lewis & Co Ltd Price 25s

This is a companion volume to the German English Medical Dictionary by the same author reviewed in the July 1949 issue of this Journal This is actually the first part of the combined dictionary and it is proposed to issue the two parts later in one volume It was concerned by extracting the most important words and phrases found in reading through 30 000 pages of Anglo American medical literature and translating them into their German equivalents The various shades of meaning of each English word when translated into the German language are illustrated by German phrases and sentences The result is a most comprehensive dictionary and the aid it affords in accurate and idiomatic translations into German can be achieved with only a fair knowledge of the language It is quite indispensable for any medical man having to read or write a medical paper in the German tongue

HEALTH AND DISEASE IN THE TROPICS By Charles Wilcocks 1950 Pp x + 200 London Geoffrey Cumberlege Oxford University Press Price 15s

This book is intended for those workers in the tropics such as District Officers Estate Managers Missionaries and so on who have no medical training but who nevertheless may be responsible for their own health and that of others in the absence of expert help

The general health rules dealing with such subjects as heat effects insects food water and sanitation are excellent and are refreshingly free from the old wives tales of which one had learned to look for in many of the other books

The rest of the book is concerned with specific tropical diseases and the emphasis is on epidemiology and prevention rather than details of treatment which are only given in a few cases where it is necessary to save life in an emergency The amount of each disease should be enough for most to be suspected when met with

It is difficult to find fault in any premises of this kind but in a book of this size it is reasonable that there should be certain omissions Some of the cures so important that it is to be hoped that they may be included in future editions

Some instruction might have been given in the use of quinine both health and [illegible] particularly in the treatment of infected wounds The use of anti snake serum is briefly mentioned but it should be stated that polyvalent serum are in existence which are used for the bites of most poisonous snakes likely to be met with in many districts Even if such serum are not used the mere possession of them has a valuable psychological effect Both these substances might be added to the contents of the medicine chest p 1801 There should be some mention of hydrophobia with the risk of contracting it from licking and thin spores of animals and the steps to be taken if bitten Finally it would have been a good idea if a few maps could have been included showing the distribution of some of the most important tropical diseases

We can heartily recommend this book to anyone who needs a little essential medical knowledge It is clearly and attractively written and of a size convenient for taking [illegible]

A DISTINCTION OF THE PRACTICE OF MEDICINE By various Authors Edited by F W Price M D C M F R C P F R S Ed Eighth Edition 1950 Pp xiv + 2076 London Oxford University Press

We welcome a new edition of this well known textbook In this edition [illegible] a new chapter has been included on the articles on the Antibiotics Sulphonamides and Nuclear Fission Many existing articles in parts of some [illegible] and there has been a considerable rearrangement etc of subject [illegible] the increasing amount of medical knowledge The names [illegible] appear and two are lost by the unfortunate circumstances of death

[illegible] new [illegible] that [illegible] been deep thought [illegible]

The Table of [illegible] that the only [illegible] for Medulla [illegible] from what is otherwise [illegible]

It would be presumptuous [illegible] working knowledge of its contents [illegible] attitude. As a book of reference [illegible]

TEXTBOOK OF VENEREAL DISEASES. By R. R. Willcox, M.B., B.S., M.R.C.S., L.R.C.P., Consultant in V.D., St. Mary's Hospital, London; Member of the Council of the Society for Study of V.D., London; Lately Consultant in V.D. to W.H.O. Pp. 439 with numerous illustrations, some of which are in colour. London: William Heinemann Ltd. Price 37s. 6d.

This is an excellent and very up-to-date textbook by an author with world-wide experience in treating these diseases—experience which he has used to advantage in its production.

Apart from some minor spelling mistakes it is well written with numerous good illustrations, mostly coloured, and well indexed.

It can be highly recommended to all those in need of a modern textbook on venereal disease.

JAMES LIND, FOUNDER OF NAUTICAL MEDICINE. By Louis H. Roddis, Captain, Medical Corps, U.S. Navy. 1st Edition, 1950. Pp. xi + 177. Illustrations 8. New York: Henry Schuman, Inc. Price $3.00.

This monograph by one of our American colleagues is a welcome addition to naval medical history. Moves as erstwhile Lind's name is solely with the pneumonia of scurvy and overlook his work on general hygiene, water supply, tropical medicine, etc. Truth does he merit the title of the Founder of Nautical Medicine. This little book can be recommended to all naval medical officers for a very pleasant and instructive evening's reading.

We acknowledge with thanks receipt of the following publications

Annals of Tropical Medicine and Parasitology. Australian Journal of Experimental Biology and Medical Science. British Journal of Surgery. British Medical Journal. Broadway. Bulletin International des Services de Santé. Bulletin of the World Health Organisation. Chinese Medical Journal. Chronicle of the World Health Organisation. Clinical Journal. Guy's Hospital Gazette. Journal of the Bowman Gray School of Medicine. Journal of the Irish Medical Association. Journal of the Royal Army Medical Corps. Journal of the Royal Naval Medical Service. Medical Journal of Australia. Medical Journal of Osaka University. Medical Press. Middlesex Hospital Journal. Military Surgeon. Proceedings of the Staff Meetings of the Mayo Clinic. Revista de Medicina Aeronautica. Scientia Medica Italica. St. Mary's Hospital Gazette. St. Thomas's Hospital Gazette. Tohoku Journal of Experimental Medicine. Tropical Diseases Bulletin. U.S.N. Medical Journal. United States Armed Forces Medical Journal. United States Medical Technicians' Bulletin. World Health Organisation Technical Report Series.

The Average in Pilots issued by the United States Marine Corps.

News of the Service

OBITUARY

[illegible] death and cremation [illegible]

[illegible] CHARLES ARCHIBALD FRCS [illegible] [illegible]

[illegible] Charles became [illegible] St Mary's Hospital [illegible] St Mary's College [illegible] [illegible] Kings College Hospital in 1888 [illegible] Surgeon Rear-Admiral Dr [illegible] [illegible] Kings College Hospital [illegible] Surgeon Director Naval Medical Services [illegible] His Majesty [illegible] CB in 1931

[illegible] was unmarried but [illegible] knowledge in his subjects [illegible] of the [illegible] No wonder [illegible] patients [illegible] and [illegible] in the [illegible] and surgeon [illegible] and [illegible]

For [illegible] Charles was a member of the Naval Advisory Board and during the Great World War he was Surgeon Rear-Admiral of the Royal Navy and served in the Gallipoli Campaign and for [illegible] KCB

Besides his work at Kings Charles was [illegible] Hospital for the Treatment of Nightingale House and the Hospital for Patients at Clapham. He was also Consulting Surgeon to the Royal Navy and operated at [illegible] Naval Hospital

Charles was very interested in cricket and spent many an afternoon at the Oval watching the game. He would ask his Registrar or House Surgeon if they would like to join him in the open air and was delighted if [illegible] thoroughly enjoyed [illegible] the Oval Club. He [illegible] his brother Arthur he always played cell against the students on one occasion and thoroughly enjoyed himself but he was [illegible] cell

In 1931 the Walker Prize was awarded to him by the Royal College of Surgeons of England for his work on the Pathology and Therapeutics of Cancer. In 1932 he was elected an Honorary Fellow of the American College of Surgeons

[illegible] Charles was unmarried but this was because he was [illegible] and [illegible] plans for the future of his disease. As a surgeon [illegible] always summoned all the experience and critical skill he could have [illegible] John Homes who [illegible] was [illegible] pioneer of surgical [illegible] prepared his articles with great care and often passed his

[illegible]

[illegible]

[illegible]

Dame [illegible] RRWC [illegible] She qualified [illegible] Dame [illegible] 1923 [illegible]

[illegible]

Member of the [illegible]

Member of Public Health and Child Welfare [illegible] National Council of Women

British Representative [illegible] Child Welfare [illegible]

Medical Lecturer [illegible]

Prior to the outbreak of war in 1939 Dame [illegible] was [illegible] Honorary Secretary both of the Women's [illegible] Council and London [illegible] Council

In November 1939 Dr [illegible] WRNS and later was [illegible] RNVR thereby receiving the [illegible] to the Royal Navy [illegible] Medical Director General of the Navy [illegible] WRNS Dr Rosevelle was promoted Temporary Surgeon Commander in 1943 and Temporary Surgeon Rear Admiral [illegible] hold this rank

In her capacity as assistant in the Medical Department [illegible] officer in the Royal Navy Dr Rosevelle [illegible] efficient medical service [illegible] in the Navy [illegible] OBE [illegible] New Year Honours 1946 [illegible] of her [illegible]

On her return in civilian life in November 1946 she [illegible] interest—The Welfare of Children

Surgeon Captain J A FORREST RN (Rtd) died on 7th December 1950 Born on 21st August, 1871 he qualified in 1895 and entered the RN Medical Service as Surgeon in November 1898 He was promoted to Staff Surgeon in 1906 Surgeon Commander in 1912 and was placed on the Retired List with the rank of Surgeon Captain in January 1923

During the First World War Surgeon Captain Forrest served in HM Ships *Bulwark* and *Lancaster*

Surgeon Commander D R I BERTRAM *OBE* RN (Rtd) died on the 10th December 1950 Born on 18th July 1903 he qualified in 1925 and joined the RN Medical Service as a Surgeon Lieutenant in August 1928 He was promoted to Surgeon Lieutenant Commander in 1933 Surgeon Commander in 1939 and was placed on the Retired List (medically unfit) in September 1950

During the Second World War Surgeon Commander Bertram served at the Old General Hospital Alexandria RN Auxiliary Hospital Stockbridge and in HMS *Ia*[illegible]

[illegible] *OBE* in the New Year Honours [illegible] obtained the [illegible] qualification of D M R England

Bettiant had [illegible] kindly pleasant cheerful and [illegible] interest and games [illegible] which made him a popular [illegible]

A good deal of his work in the Service was done as a Rd [illegible] branch of Medicine he had considerable experience and was a really [illegible] anaesthetist His extensive knowledge and help was always at the really disposal [illegible] He was keen on teaching and he was instrumental in starting the [illegible] School of Radiology at R.N Hospital Plymouth

"His early death was a great shock and a great loss to his many friends in the Service.

Surgeon Lieutenant D A KNOCK R.N killed in action in Korea 29th November 1950 Born on 14th January 1933 he qualified in 1943 and entered the R N Medical Service as a Temporary Surgeon Lieutenant R N V R on 22nd February 1946 He served in H M S *Wild Goose* until released in Class A in March 1948 and then re-entered as a Surgeon Lieutenant in the Permanent Service in February 1949 After serving at R N Hospitals Chatham and Haslar Surgeon Lieutenant Knock was appointed for service with the Royal Marine Commandos in Korea in August 1950 and met his death when with complete disregard for his own safety he moved out into the open under very heavy fire and started to tend the wounded

---

HONOURS AND AWARDS

Companion of the Order of the Bath

Surgeon Rear Admiral K A I Mackenzie K H P

Commander of the Order of the British Empire

Surgeon Captain (D) I R P Williams *OBE* K H D S R N

Member of the Order of the British Empire

Acting Interim Surgeon Lieutenant Commander W B Jack R N
Temporary Surgeon Lieutenant Commander D S MacPhail R N V R
Surgeon Lieutenant T S Law R N
Wardmaster Lieutenant D Farnard R N

Royal Red Cross

Miss Barbara Nockolds, *A R R C* Superintending Sister/Matron Q A R N N S

Associate of the Royal Red Cross

Miss O M Molyneaux Senior Nursing Sister Q A R N N S

Mentioned in Despatches for Distinguished Service in Korean Waters since 9th July, 1950

Surgeon Captain T B Lynagh R N

PROMOTIONS

Promoted to Surgeon Captain

Surgeon Commander R A Crill R N

Promoted to Surgeon Commander

Acting Interim Surgeon Commanders G H C R Cannon F P Ellis *OBE*, B M Guldsworthy G I Hindman N S Hepburn S Miles E H Murchison *OBE* J P T Wellwood

Promoted to Surgeon Commander (D)

Surgeon Lieutenant Commanders (D) D L Goodridge D C Howe

[illegible] /
[illegible] B B Weston

[illegible]
[illegible] S C F Linton W [illegible]

[illegible]
[illegible] (D) J N Burrell J A R Hen[illegible]

[illegible]
[illegible] J V C Dixon R [illegible]

Pr[illegible] Surgeon L[illegible] (D)
[illegible] (D) D I H Fr[illegible] V J [illegible]

TRANSFERS TO PERMANENT LIST

[illegible] Surgeon Lieutenant Commander J C Higginson
Surgeon Lieutenant (D) A F J Smith

ENTERED FOR SHORT SERVICE COMMISSIONS

J F Fay MB BS P J Hillet LRCP&S C J Hall LDS J G Hindmarsh MB BS G M Ingill MB ChB M C H Jackson MB BS P A Johnson MB BCh A King MB BS P H Lovell MB BS D D J Rees MRCS LRCP J T B Stewart MB., BCh, MRCS LRCP S C A Wychlir Jones MB. BS

WARDMASTER OFFICERS

PROMOTIONS

Promoted to Wardmaster Lieutenant
Senior Commissioned Wardmasters K A J Chapman A Gorle

Promoted to Acting Commissioned Wardmaster
R E Workman D/MX 47120

RETIREMENTS

Wardmaster Lieutenants D Barnard W J Walsh Acting Senior Commissioned Wardmaster A. E. Askew

ADMIRALTY FLEET ORDERS

3428/50—Eyesight—Spectacles—Supply, Repair and Replacements to R.N R.M and W R N S Personnel, Home and Abroad Admiralty Civilians Abroad and Wives and Families of Naval and Admiralty Civilian Personnel Abroad—Arrangements

3650/50—Pay and Allowance Regulations—Full Pay—Medical and Dental Officers—Revised Rates—Amendments

3651/50—Royal Marines—Hurt Certificates—Procedure for issue

3719/50—Dental—Routine Dental Examinations—Cancellation of Suspension

18/51—Dental—Dental Mechanics—Protective Respirators

25—Medical—Notification of Admission of Naval Patients to and Discharge from Civilian Hospitals—Forms NSP 105 and S 1292

26—Medical—Trichlorethylene—Precautions for Use with Degreasing Plants etc

40—Medical—Ratings and Royal Marine Other Ranks—Disposal of Those Suffering from Mental Disabilities

41—W R N S—Medical Examination for Foreign Service

64—Dental Stores—Dental Furniture and Equipment—Return of Empty Packing Cases

65—Dental Stores—Mercury and Surplus Dental Amalgam—Salvage.

66—Dental Stores—Handpieces for Dental Engines—Care of

67—Dental Stores—Dental Operating Jackets

68—Medical Stores (including Dental)—Loss and Breakage

107—Invalids—After Care and Emergency Help—B.R.C.S. and Order of St. John's Scheme—Form S. 332a

120—Medical—Admission of Acute Mental Cases to Civil Hospitals in Scotland

168—Courses—Sick Berth Ratings—Physiotherapists—Medical Electricity and Light and Electrotherapy Courses

169—Dental—Routine Examinations—Cancellation of Suspension

173—Leave—Sick Leave

176—Medical—Dental and Hospital Consultants

177—Medical—Morphia—Use in Ships Not Carrying a Medical Officer

182—Pay—Sick Pay Entitlement for Officers, Ratings and Other Ranks—Conditions

310—Medical—Canteen Staff—Medical Examinations and Treatment

311—Medical—Invalids Returning to the United Kingdom—Disposal on Arrival.

450—Medical—Disinfection and Disinfestation Procedure

451—Officers—Medical and Dental Specialists—Introduction of Senior Specialists

484—Dental Stores—N.P.C. and Wattes Local Anaesthetic

485—Medical Stores—Dried Blood Plasma

527—Medical Dental and Hospital Consultants

528—Medical—Treatment by Admiralty Surgeon and Agent and Civilian Practitioners—Forms S. 293 and S. 26

Preparations and Appliances

A [illegible] routine chemical analysis of urine can now be completed in one minute anywhere—on the physician's desk, in the laboratory or at the patient's bedside—by a spot test procedure known as DROP TEST. The product is now being supplied to the British market by Biochemical Methods Export Co., an affiliate of the manufacturer Biochemical Methods Inc. and is packed in a permanent redwood box with compartments for a porcelain spot plate and seven reagents in dropper bottles.

Test tubes, Bunsen burners, water baths and bulk reagents are all discarded. The seven tests comprise pH, albumin, sugar, acetone, indican, bile and occult blood. A drop of each reagent is placed in the spot plate concavities and then to each is added a drop of the urine to be tested. Reactions are recorded at the end of one minute by comparison with a colour chart affixed to the DROP TEST kit.

The manufacturer states that the swiftness of the procedure is matched by its reliability. Each reagent is supplied in sufficient amount to permit perform

[illegible] 300 tests. [illegible] purchased separately [illegible] 10th saving [illegible] international regents.

[illegible] test has [illegible] of the Am[illegible] Medical Association and has been sold in the United States since early 1950. [illegible] principal medical and surgical supply [illegible] dealers in country.

For further information [illegible] Medical Equipment Co., 504-506 Keith Building, Cincinnati 2, Ohio, U.S.A.

JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE ANNUAL REPORT, 1950

BALANCE SHEET

Assets	£	s	d	Liabilities	£	s	d
Balance in Bank 31.12.50	473	11	4	Supplies Press Limited October 1950 issue	79	0	0
Cash and Stamps in hand 31.12.50	1	11	8				
3% Funding Stock	100	0	0				
3½% War Loan	600	0	0				
Advertising Agents October 1950 issue	46	0	0	Balance Crediting	858	3	0
	£1,171	3	0		£1,171	3	0

Audited and found correct

H. R. Gardner, Lieutenant (S) R.N.

NAVAL MEDICAL COMPASSIONATE FUND

ACCOUNT OF RECEIPTS AND PAYMENTS FOR THE YEAR ENDED 31ST DECEMBER 1950

	£	s	d	£	s	d
Balance at Bank on 1st January 1950				316	19	9
Dividends on Consolidated Stock	265	0	0			
Interest on Conversion Stock	66	10	0			
Dividends on 4% Consolidated Stock	40	0	0			
Interest on 3½% War Stock	35	0	0			
Bank Interest	12	0	0			
Interest on 2½% Defence Bonds	22	14	7			
				441	4	7
Subscriptions				208	19	0
				£967	3	4

	£	s	d
Awards to Widows and Orphans	[illegible]	[illegible]	[illegible]
Secretary's Allowance	[illegible]	[illegible]	[illegible]
Audition	[illegible]	[illegible]	[illegible]
Purchase of £250 2½% Defence Bonds	[illegible]	[illegible]	[illegible]
Balance at Bank on 31st December 1950	[illegible]	[illegible]	[illegible]
	£967	[illegible]	4

I [illegible] that I have examined the above Account of Receipts and Payments and find it to be correct and in accordance with the [illegible] of the Fund and that all my requirements as Auditor have been met.

Certificates of the Stocks standing at the Bank of England and in the Naval Medical Bank Limited in the names of the Trustees [illegible] 31st December 1950 is thereto hereunto attached.

A [illegible] of the Balance on Current Account at the National Provincial Bank Limited on that date is also attached.

[illegible] subscriptions received during the year include £1 1s 0d in respect of previous years and £3 3s 0d in advance for [illegible]

[illegible] amounts of £34 13s 0d were unpaid at 31st December 1949 as follows:

	£	s	d
1948	4	4	0
1949	11	11	0
1950	19	18	0
	£34	13	0

(Sgd.) WM. C. McNICOL
Chartered Accountant
Auditor

[illegible] 1951

In addition to the above Cash Balance Stock to the following amounts were standing at the close of Account at the Bank of England in the names of the Trustees:

* £10 000	2½%	Consolidated Stock
† £1 900	3½%	Conversion Stock
† £1 000	4%	Consolidated Stock
† £1 000	3½%	War Stock

Bonds to the following amounts are also held:

† £400	3%	Defence Bonds
† £1 000	2½%	Defence Bonds

* Original Fund under Clause 5 of the Order in Council of 26th July 1915

† Invested out of accumulated interest and subscriptions

(Sgd.) C. E. GRESSON
Surgeon Vice Admiral
President

January 1951

Notice

[illegible]

[illegible]

[illegible]

All communications should reach the Editors on or before the first of the month preceding the date of issue. Unless clearly written they should be typed in order to avoid mistakes and they should be addressed to the Editor, JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE, Monckton House, Alverstoke, Gosport, Hants.

The Journal is published quarterly, four numbers comprising one volume.

The subscription is 20s. per annum (postage included), payable in 1st January of each year, but should a subscriber wish to commence at any other quarter he may do so by payment at the rate of 5s. per copy. All subscriptions are payable in advance. Single copies can be obtained for 6s. per copy. Cheques or postal orders for subscriptions should be crossed "Lloyds Bank Ltd." and be made payable to the Manager, JOURNAL OF THE ROYAL NAVAL MEDICAL SERVICE, Monckton House, Alverstoke, Gosport, Hants. In all communications relating to subscriptions, &c., should be addressed

The payment of subscriptions by banker's order is recommended as it relieves the subscriber of the necessity of forwarding a cheque each year and simplifies the keeping of accounts.

All applications for Advertisements to be made to

THE EDITOR,
JOURNAL OF THE R.N. MEDICAL SERVICE,
Royal Naval Medical School, Alverstoke, Hants.

[illegible] MRCS [illegible]
[illegible] 1938 191
[illegible] MX 1 51

Vol. LXXXVII. Summer 1941. No. 3.

Journal

of the

Royal Naval Medical Service

Articles

A MEMORY OF THE "ECLAIR"

BY

Surgeon Captain R. W. MUSSEN, R.N.

For the pestilence that walketh in darkness; nor for the sickness that destroyeth in the noonday. — Psalms xci. 6.

Burnham Island lies opposite Sheerness in the Medway, near the point where the river enters the Thames. It was once grazing land, being protected from the tides by a sea wall. It was of some importance many years ago when there was a gunpowder station in Stangate Creek, an inshoot and branch from the river which formed an island. There was also the remains of a gunpowder factory, the former Frigate School. The land has not been used for many years, the sea wall has fallen all to pieces, and the area is gradually being reclaimed into a mass of mud.

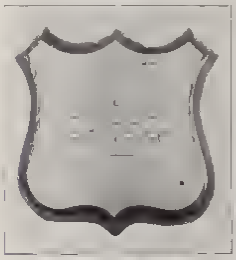
A man named Chalkley, who recently landed on Burnham, found a small female rabbit living in the mud, and brought it to the Naval Veterinary Department, Upnor. He then sent it to me in a shield mounted on a cork and encased. Since then the Memory of Sidney Bernard Surgeon, Royal Navy, and of the late William Barnes, Lieutenant, Knockfergus, Co. Antrim, Dublin, who died on the 9th October 1845, on board *H.M.S. Eclair*, which put in for a time in Stangate Creek. Aged 27 years. Beloved by all who knew him. Sent by his Son, Mr. Barnes, who was then a boy.

This rabbit had been landed there, so far as the only one of Irish descent is concerned, by Barnes, Island, and many persons were buried there, and were in the cemetery at Dunham Island, but not so far as Stangate Creek. The sailors were then living in the middle of a vast field of corn and, as was usual, they were carrying the wounded and sick of Sidney Bernard, and William Barnes, from the ship *Eclair*. The ship, since sailing, had seen 185 deaths from fever, the middle and lower classes, and a Lieutenant, received only a few deaths.

H.M.S. *Eclair* was a new vessel, just completed, built in Plymouth, and the one and only commander was the Wm. Cornwallis Mayne, on 2nd November 1844, with a crew of 160 officers and men, under the command of Captain Esmond. She was a jolly good ship, employed in keeping down the Slave Trade, and was in Sierra Leone, Fernando Po, and other such unfortunate places.

individual [illegible] Africa to the Southern [illegible] America

The *Eclair* left Ascension on 1st [illegible] after a rough passage through the Bay of Biscay under steam [illegible] Vigo called at Teneriffe for a few days. The required alterations for service in the Tropics were completed and she reached the River Gallinas in the west of Africa on 20th



The ship [illegible]

Beach [illegible]

December [illegible] Fernando Po on Christmas Day.

During the [illegible] months she was occupied in cruising along the coast anchoring [illegible] short time at different places in the [illegible] the island of [illegible] River Gallinas. The men were being [illegible] to the climate [illegible] is much more equable than in North [illegible] for months [illegible] January she arrived at Sierra Leone when the rock in [illegible] and liberated Africans, this being the extra complement allowed for service on the Station.

After a few days she returned to Seaber off the island of Sherbro where the ship's company was much employed in boarwork, which was often the only means available of watching the movements of the slavers. Boat parties were able to explore the inlets of the sea and tributaries of the large rivers where the captives were often assembled for embarkation. Here the banks of the rivers were low and swampy and covered with mangrove thickets, with trees in the full vigour and luxuriance of tropical vegetation.

The boats were often away for several days at a time, and the men had to sleep there or on shore after a hard day's work at the oars. Sometimes they were exposed to heavy rain, and it was said that the 'musquitos' were so numerous that it was impossible to sleep without the protection of a wood fire. At this time it was often possible for the men of the *Eclair* to see other vessels of the Squadron passing out at sea with captured prizes, on the way to

Sierra Leone. This produced some degree of mental despondency and possible injury.

In spite of these conditions the ship's company remained reasonably healthy until 3rd April, when the first case of fever occurred. Though this was severe the man recovered, but on the 18th April three men who had been away in the barges were sick, and all died on the fifth or sixth day of their illness. The fever was remittent and it is said the head was generally much affected. Though there is no mention of black vomit, autopsies were done by Mr Macconchy, the surgeon, and showed in each case that the stomach was filled with reddish glairy matter, or dark serous fluid mixed with black flakes. It is reasonable to suppose that these men died from yellow fever.

During the next month or so the ship continued to move about the coast with boat parties working in shore. Nine more cases of fever occurred, seven of them dying within five or seven days from what was described at the time as the common coast fever. All the men, with two exceptions, had been engaged in boat work, and it was thought that these two, although they had not been out of the vessel, had been exposed to the same emanations as the men employed in the boats, though perhaps in a less concentrated form, while not having suffered from privation and fatigue, they were not so susceptible to the disease.

After the first week in June the ship was under way quite a considerable time, proceeding up and down the coast. The health and morale of the men now improved, and no further cases occurred after 5th June for over six weeks. They arrived at Freetown on 4th July, and anchored in a berth which was described as from a health point of view, not inferior to any in the harbour, where all were nearly equally bad.

Sierra Leone, or Freetown as the town has since been called, was then the most important British Settlement on the coast. It owed its importance as a base for the Naval Squadron to a fine harbour, and to an abundant and pure water supply, such as could not be obtained anywhere else within hundreds of miles. Spanish and Brazilian slaving vessels captured by the Naval Squadron on the coast were sent there for adjudication by the Court of Mixed Commission.

Sierra Leone had a bad reputation for health, and it was said that a larger proportion of disease was contracted there by the naval force than upon any other part of the Station. It was to this place that the designation "White Man's Grave" was originally applied. There were many low ships in the town where alcoholic drinks of the worst quality were sold. The men who did not return to their ships might spend the night on muddled ground in the bush, in his unheeled in some obscure corner of the town. There were regulations that no part of the ship's company, other than officers and native Africans, should have shore leave, but exceptions were often made.

While at Sierra Leone most of the crew of the *Eclair* were employed in cleaning out the hold of the *Albert*, an old ship that was in a filthy state. The *Albert* had returned from the ill-fated expedition for the exploration of

the Niger River [illegible]

On 19th July [illegible]

[illegible]

[illegible]

During the [illegible]

[illegible]

On 14 [illegible]

[illegible] finally admitted [illegible] Bona Vista [illegible] arthur cutter [illegible] Bona Vista [illegible] coast fever [illegible]

The fever continued [illegible] Bona Vista [illegible] its sick and the [illegible] physician [illegible] the steamer company [illegible] officers were allowed [illegible]

In the meantime the [illegible] thoroughly [illegible] and stores [illegible] the Kroomen [illegible] The interior of the steamer [illegible] perfectly [illegible] contained in a very [illegible] living hell [illegible] The hold [illegible] placed [illegible] even with sand [illegible]

In spite of the removal [illegible] 28 deaths took place from the [illegible] September making in all 39 deaths [illegible] 4th September Mr Charles Harrison [illegible] fever and died on the 8th

[illegible]

[illegible]

[illegible] weeks

Captain [illegible] reversed [illegible] He now [illegible] of the [illegible] him in [illegible] on the [illegible] papay. [illegible] proceed [illegible] In the meantime [illegible] in Bonn [illegible] who had [illegible]

On 13th September [illegible] in the [illegible] 14th [illegible] Mr. [illegible] Mr. [illegible] [illegible]

[illegible] Mr. [illegible] then be [illegible] ing effects [illegible] particularly in [illegible] depicted to [illegible] [illegible]

The ship [illegible] proceeded [illegible] Plymouth [illegible] the Mocher

[illegible] Sheerness had been [illegible] sick list and was manned [illegible] and by 45 Kroumen There had been 41 fresh [illegible] during Boat Visits with 12 deaths On arrival 5 were [illegible] unfit to be [illegible] and all died within two days several [illegible] turned black in a human matter Dr Salter of the Motherbank Quarantine [illegible] but the other three refuse to give prognosis Mr Bernard [illegible] reported the parts were rather pathetically I would [illegible] consideration whether a removal from ship board would [illegible] preventing the further progress of the fever

Rear Admiral Hyde Parker the Admiral Superintendent at Portsmouth at once ordered Dr John Richardson the Principal Medical Officer of Haslar Hospital [illegible] *Echar* in order that he might report on the sickness and suggest any [illegible] which might be taken to help Dr Richardson after visiting the Echar the 20th said that he was willing to take charge of the sick, and suggested that they should be [illegible] in a hard in Haslar Hospital He did not believe that there would be any risk even to the attendants At the same time the Commander in Chief proposed to place a frigate near the *Echar* in the Motherbank so that the sick could be separated from the healthy

Before any action could be taken on Dr Richardson's report Sir William Pym the Superintendent-General of Quarantine with Mr Arnott a distinguished Surgeon from the Middlesex Hospital arrived on the morning of the 30th and visited the *Echar* They had been sent down by the Government to decide what measures should be taken Sir William considered that there must be no communication with the ship and further that she should proceed at once to the Quarantine Station at Stangate Creek beside Burnham Island in the Medway He gave as his reasons for this the very sickly state of the crew and the difficulty in communicating with the ship at the Motherbank in the event of boisterous weather

As Bryson vividly described it This were the shattered remains of the [illegible] of this doomed vessel not only compelled to abide for a number of days longer in the pestilence which surrounded them but with the fresh and [illegible] fevers of other pestilential countries in which they had once more to weigh anchor and proceed to sea Whether the natives on the shore of the Sherbro [illegible] because they had contracted the disease would have acted with more humanity is a question which might fairly be mooted

Having taken a pilot Mr Saunders on board the *Echar* left the Motherbank on the night of 1st October and on the afternoon of the 2nd arrived at Hoo Bill Quarantine Station in Stangate Creek On the following day Mr Sidney Bernard reported the loss of 5 more men and on the same evening he also was attacked On the 5th, Mr Colley the only medical officer left on board also fell ill

Within a few days of arrival at Stangate Creek 41 of the ship's company who had escaped the fever had been received on board the *Revenge* a line

of bath ship in Rescue. Those who had recovered [illegible] seem here the fever were transferred to another two thickers [illegible] leaving none on board the *Eclair* but the sick including the [illegible] well as the acting Commander Hunter and the Kingsmen [illegible] taken ill at any time with the fever. Dr. J. C. Stewart and Dr. W. Hogg from the *Ocean* Flagship at Sheerness had both volunteered [illegible] and joined the *Eclair*.

Mr. Burnard died on the 9th October and [illegible] Mr. Saunders who had joined the ship at Pernambuco [illegible] and died on the 16th. The last victim of this hard epidemic was [illegible] Bainsim who died on the 12th. Dr. Rogers also died [illegible]. There were no fresh cases after this by the 10th of the month [illegible] and in the end of the month the ship was relieved from [illegible] and completely broken up. This ended the fever in the *Eclair* and [illegible] of the officers and guard over half her full complement of 146 officers and men.

The sickness aboard the *Eclair* was not called yellow fever. This was apparently because of the charges which were made by the Portuguese of the *Eclair* having introduced yellow fever into Bona Vista. There is no doubt however that the disease in the *Eclair* which killed [illegible] was a particularly virulent form of yellow fever [illegible] contracted in Sierra Leone possibly from the *Albert* and continuing [illegible] the infection of insect recurs on board and in Bona Vista. Mr. Dalley [illegible] the warmth between decks would have enabled the [illegible] in the Autumn in England. He also explained the [illegible] medical men. Anyone visiting a ship in the *Eclair* [illegible] of contracting fatal yellow fever and the chances are [illegible].

In the few years after the tragedy in the *Eclair* [illegible] development between Sir William Burnett, the Medical Director-General of the Navy, and Sir William Pym, the Superintendent-General of Quarantine. Burnett had remonstrated over the harshness of the Quarantine [illegible] Pym who believed that the fever was due to [illegible] the population of London had been made by the unhealthy night-soil [illegible] been not a hundred or a thousand but [illegible] thousand [illegible] period.

This, apart from personalities, revealed basically different [illegible] the mode of spread of the fever. Pym [illegible] was [illegible] direct intercourse with the sick officers. Burnett, who was not [illegible] the mark, believed that it was not produced by affection but from a miasma and the state of the ships hold. He thought in the case of the *Eclair* that the disease was in the ship itself. She appeared to have [illegible] within herself the power of generating disease and in fact [illegible] impregnated with some principle obnoxious to health.

How right he was and how near to the truth we now know. Though it was thirty years before the association of yellow fever with Aedes was established. In spite of this it is easy to sympathize with the position Pym

[illegible] Surgeon with his responsibilities [illegible] taken [illegible] *Eclair* on her arrival. [illegible] know that it [illegible] and humane [illegible]

[illegible] Dunlop [illegible] his prompt [illegible] tell the story of [illegible] published the Navy in 1898 as [illegible] surgeon and [illegible] to Flagship *Caledonia* in Dockyard and in the [illegible] *Eclair* [illegible] In the *Royal Gazette* of [illegible] following entry: "Promoted to Surgeon—S[illegible] (Surgeon) [illegible] to the *Eclair* (This excellent officer [illegible] died in time to enjoy his promotion—[illegible])"

The [illegible] Bernard's grave [illegible] [illegible] the [illegible]

The [illegible] tombstone with [illegible] [illegible] clings added later

(Photographs by SBLPR [illegible] Dates)

Bernard's [illegible] grave was originally marked by an upright inscribed [illegible] which in [illegible] time was broken. The stone was then laid [illegible] the grave [illegible] surrounded by a [illegible] in which the iron railings were embedded. [illegible] in one of the photographs it seems that [illegible] had [illegible] the railings. This is the rubble which was found [illegible] Bermuda Island.

Some [illegible] visit Sidney Bernard's grave recently. The stone [illegible] covered by three or four inches of soil and it was only [illegible] to reveal the grave that we were able to read the original [illegible]. It seems that it will only be a matter of time before the grave is [illegible] covered up by [illegible] soil. It is hoped that the plaque will [illegible] the Royal Naval Hospital, Chatham, as a permanent memorial to Sidney Bernard and possibly [illegible] the other doctors who died in the *Eclair*.

REFERENCES

[illegible] on the [illegible] of the *Eclair* and [illegible] which broke out [illegible] Presented [illegible] House of Commons [illegible] Address [illegible]

[illegible] and Dis[illegible] of the African S[illegible]

[illegible] on Belum [illegible]

[illegible] in the Nineteenth Century [illegible] *of the Royal Naval Medical Service* July 1934

[illegible] *Review* July 1946

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FLUORESCENCE MICROSCOPY

by

EDWARD GURR F R I C, F L S, F R M S

FLUORESCENCE is the property possessed by many substances of converting light of wavelengths of light into longer wavelengths In microscopy the substances and structures of most interest are those which convert ultraviolet light into light of the visible spectrum as only substance of this character can be observed directly It is of course well known that most living organisms are profoundly affected by short light waves and a great deal of information as to their structure has been obtained by the study of the appearance of these organisms under the influence of invisible light rays If individual cells or structural units are examined before during and after ultraviolet treatment enough of this effect should be discovered to impart some understanding as to the changes which occur in the animal or plant as a whole

In fluorescence microscopy structural details are rendered visible by (*a*) *innate auto fluorescence* a property possessed by most tissues which when excited by short light waves become clearly visible since they become luminous and glow or 'fluoresce' with a radiance of their own or by (*b*) *secondary fluorescence* which is known as fluorochromy and is brought about by the process of treatment of the tissues with fluorescent dyes and certain alkaloids (e g Berberine sulphate) and other substances

It is proposed to deal only with fluorochromy in the short space of this article

Fluorescent dyes and other substances used for this purpose are known collectively as fluorochromes these materials are selectively absorbed by certain parts of the cell When tissues bacteria or protozoa which have undergone treatment with fluorochromes are examined under the microscope using ultraviolet light instead of transmitted light of the visible spectrum they become visible as bright luminous objects against a dark background Cells stained with fluorochromes absorb the ultraviolet rays of short wave length and emit this energy in the form of fluorescent light in the visible spectrum Basic and acidic fluorochromes act specifically to stain certain cellular structures as do the more common microscopic stains such as for

[illegible] blue and eosin. The red [illegible] the relative basophilia and [illegible] cells [illegible] the particular fluorescence.

[illegible] employed with advantage in the study of living [illegible] mammalian tissue stain may be injected into mice and the living organisms can be studied without interfering with their functioning. Fluorescence is also of practical importance for the demonstration of ophthalmia bacilli, tubercle and leprobacilli, malaria, etc., as well as for virus research. Many workers prefer fluorochromy for routine bacteriological work in the demonstration of tubercle bacilli, although there are wide differences of opinion as to the merits of this technique compared with the orthodox Ziehl-Neelsen method.

Contrary to the generally held belief, the apparatus required for fluorescent microscopy is fairly simple and inexpensive. Any good make of microscope as used for direct microscopy is suitable when fitted with a dark ground condenser made of quartz or ultraviolet transmitting glass, in addition to which only the following apparatus is required:

(1) A high pressure mercury vapour lamp, the condensing lenses of which should be made of quartz because ordinary glass absorbs a considerable amount of ultraviolet light. The General Electric Company's A84 is suitable as this offers an intense source of ultraviolet light which is especially rich in the region from 300 to 400 millimicrons, which are the rays most effective in exciting fluorescence in biological materials. The lamp, which has a life of [illegible] hours, and costs little more than a good research microscope lamp, [illegible] in a bayonet screw base socket which may be mounted in any type of lamp housing. It is advantageous to mount the lamp on a simple optical bench [illegible] using critical focusing.

(2) A Wood's glass filter which passes ultraviolet light.

(3) A glass cell containing 5 per cent copper sulphate solution acidified with [illegible] of concentrated sulphuric acid.

(4) A filter which absorbs the ultraviolet light; this is placed in the eye piece to protect the harmful effect of ultraviolet light on the microscopist's eye.

(5) A pair of Wood's goggles, which should be worn by the microscopist when switching on and adjusting the lamp.

It has been claimed that microscope slides of special glass are necessary for fluorescent microscopy, but provided they are not more than 1·3 mm. thick and are of high quality, microscope slides as ordinarily used are quite satisfactory, particularly if the source of ultraviolet light is intense.

Notes on Fluorescent Staining Technique

(*a*) Fixatives containing salts of heavy metals (with the exception of zinc), chromic, bismuth, iodine, and nitro compounds should be avoided as these exert a quenching effect on fluorescence. The most suitable fixatives are 5 to 10 per cent formalin or Kibler's fluid.

(*b*) If tissues are embedded in paraffin wax, all traces of the wax, which is

[illegible] removed before [illegible] and examined.

(c) As immersion oil a special grade of cedar-wood oil should be employed since ordinary oil and most of the immersion oils [illegible] for ordinary microscopy are unsuitable for fluorescence work.

(*d*) The usual mounting media as used for ordinary microscopy contain highly fluorescent materials which render them unsuitable for fluorescence work and should therefore be avoided. For temporary mounts glycerine may be used and for permanent mounts there is a satisfactory medium on the market under the name of *fluormount*.

Fluorochromes of which Auramine O, Coriphosphine, acridine yellow H107, acridine orange, pinaflavine, thiazol yellow, are examples are frequently used in very dilute solutions to produce characteristic fluorescent colours and when preparations which have been treated with these solutions are examined in transmitted light of the visible spectrum they appear to be unstained or only very faintly tinted.

Some explanation as to the colour differentiation obtained by the use of general purpose fluorochromes of which acridine yellow H107 is an example is explained by the fact that fluorescence colour is affected by hydrogen ion concentration and as fluorochromes also exhibit differential absorption by various tissues the production of a great variety of fluorescent colours is brought about by the influence of the surrounding tissues. Nuclei can be differentiated from cytoplasm by the use of any one of the following general fluorochromes: acridine yellow H107, coriphosphine, phosphine 3R or acriflavine.

Titan yellow, Rhodamine B, phosphine 3R, methylene blue can all excellent fluorochromes for fat while [illegible] sulphate is much used for protozoal parasites particularly for malaria. Thioflavine has been found satisfactory for virus and for bacteria as well as for general fluorochrome staining while acriflavine has been used for trypanosomes and as a general stain and uranin is one of the most suitable fluorochromes for intravital staining. All these fluorochromes are used in very dilute aqueous solutions that is to say something to the order of 0·1 to 0·01 per cent.

Some Specimen Fluorochrome Staining Techniques

I. Vital Staining of Living Trypanosomes in Blood.

Solution required.—Acridine orange 0·01 per cent. in 0·87 per cent. sodium chloride.

Technique.

(1) A drop of blood suspected of containing trypanosomes is mixed on a slide with a few drops of the acridine orange solution and covered with a coverslip.

(2) Examine with a blue light fluorescence microscope which may be constructed as follows: parallel rays produced by attaching a convex lens to the lamp are filtered with a cuvette (2·5 cm. thick) filled with saturated solution of copper oxide ammonia so that only the blue light reaches the plane mirror of the microscope. A filter containing an orange glass which absorbs blue light quantitatively but allows green, yellow and red to pass

unchanged [illegible] the slide. A slide with powdered [illegible] in liquid [illegible]

Result [illegible] are seen as red [illegible] luminous [illegible] fluorescent

II. Staining of [illegible] Dried Blood Films

Solution required

Auramine O (1 per cent) aqueous	100 ml
Phenol crystals	5 grm

Technique

(1) Fix [illegible] blood suspected of containing trypanosomes in [illegible] for [illegible] minutes, then wash with distilled water.

(2) Stain [illegible] for [illegible] minutes in the auramine solution, then wash with [illegible] for one minutes. Drying the slide in the dark.

Result [illegible] with blue light fluorescence microscope [illegible] are seen as bright luminous circles, while trypanosomes show with a bright golden fluorescence against a dark background. By [illegible] the [illegible] of liquid paraffin and a cover glass the contrast will be [illegible]

III. Staining of Acid-fast Bacilli

Solutions required

A	Auramine O aqueous 0·1 per cent	100 ml
	Phenol crystals	5 grm
	Dissolve by shaking. Do not apply heat as auramine decomposes at 40° C.	
B	Methylene blue 0·1 per cent aqueous	
C	Potassium permanganate 0·1 per cent aqueous	

Technique Place sandalwood oil between the slide and condenser. The [illegible] of the microscope should be enclosed with a shield to exclude extraneous light.

Sections

(1) Fix tissues in 5 to 10 per cent formalin for twelve to twenty-four hours, embed in paraffin wax and cut sections 5 to 10 μ in thickness.

(2) De-wax as usual, taking care that all traces of wax are completely and freshly removed from sections.

(3) Bring sections down to distilled water as usual, then flood with the auramine solution and warm (not over 40° C.) for five to ten minutes afterwards washing with distilled water.

(4) Counterstain in methylene blue solution for thirty seconds, then rinse in distilled water, dehydrate as usual, clear in xylol and mount in fluoromount.

Smears

(1) Stain for five minutes in the auramine solution, afterwards washing with tap water and decolorizing in 2·5 per cent sulphuric acid.

(2) Immerse in the potassium [illegible] thirty seconds to overcome any interfering dye [illegible]

Results —Tubercle bacilli appear as the [illegible] rods against a dark background

IV An *Improved Method of Staining* [illegible]

Solutions required—

A Phenol 3 per cent in distilled water [illegible]
Auramine O [illegible]
Dissolve by shaking do not heat [illegible] decomposes when heated above 40° C

B Hydrochloric acid pure [illegible]
Sodium chloride [illegible]
Methyl alcohol pure [illegible]
Distilled water [illegible]

C Potassium permanganate 0 1 per cent aqueous [illegible]

Technique —(1) Smears of sputum or centrifuged [illegible] by heat in the usual manner

(2) Immerse the smears in the auramine solution [illegible] afterwards washing them with tap water

(3) Decolorize by immersing for two minutes in [illegible] changed solution B then wash in tap water

(4) Immerse in the potassium permanganate solution [illegible] twenty minutes then wash with tap water blot and dry

It is claimed that this method gives more positives than the Ziehl Neelsen technique and there is a saving in time Using Lamperti [illegible] tubercle bacilli are visible under the two thirds or the quarter and [illegible] with a X8 eyepiece and the one sixth inch objective [illegible]

Staining of Fat

Method 1 *Solution required*—

Phosphine 3R 0 1 per cent aqueous or methylene blue [illegible] aqueous

Technique —

(1) Stain frozen sections for two minutes then rinse in water

(2) Examine in water

Results —With phosphine 3R fat is observed as a silver [illegible] once against a brown background and due to the omission of lipid solvents in this technique smaller and more numerous fat droplets can be seen than in the case of the sudan technique is used in ordinary microscopy With methylene blue fat gives a blue fluorescence

Method B *Solution required*—

Thioflavine S 1 per cent aqueous

Technique —

(1) Stain frozen sections are stained for two minutes then rinsed in water

(2) Examine in water

Results —Fats appear violet against a dark background

Note — With this method fewer lipids are stained than with phosphine 3R

Staining Virus with Primulin

Solution required—

Primulin 0 1 per cent aqueous

Technique

(1) Stain for thirty seconds

(2) Mount if desired in a medium consisting of 100 gm of [illegible] gum [illegible] dissolved in 100 ml water and 50 ml glycerin with the addition of [illegible] gm chloral hydrate

Note —With primulin which may also be used as a general fluorochrome a violet fluorescence is obtained

VI Staining of Muscle

Solutions required—

A Primulin 0 1 per cent aqueous

B Sodium nitrite 1 per cent aqueous

C Hydrochloric acid conc [illegible]

Distilled water [illegible]

D Resorcinol saturated aqueous solution

Technique

(1) Sections are stained for two to five minutes with the primulin solution

(2) Wash quickly then immediately transfer to the sodium nitrite solution to which has previously been added with stirring an equal volume of the diluted hydrochloric acid (solution C above) and leave therein for fifteen to twenty minutes

(3) Wash in water then immerse for fifteen to thirty seconds in the resorcinol solution

Results —Muscle tissue fluoresces with a strikingly luminous green fluorescence

VII Differential Staining of Cytoplasm Nucleus Nucleolus and Chromatin

Solutions required

A Congo red 0 1 per cent aqueous or acid fuchsin 0 1 per cent aqueous

B Acridine yellow H107 0 1 per cent aqueous or corphosphine 0 1 per cent aqueous

Technique —

(1) Sections are stained for two minutes with the congo red or acid fuchsin solution

(2) Pour off excess congo red then stain for two minutes with the acridine yellow or corphosphine solution

This technique gives a very sharp colour differentiation

VIII Differentiation of [illegible]

Method A Solution required—

Acridine yellow H107 0 1 per cent [illegible]

Technique—

(1) Sections are stained with the acridine yellow for two [illegible]

(2) Pour off excess stain and rinse with distilled water

(3) Dehydrate in the usual manner clear in xylol mount in [illegible]

Results—Neurophile nerve tissue appears light blue while [illegible] nerve tissue is light yellow to orange

Method B Solution required

Acridine orange 0 1 per cent aqueous

Technique—

(1) Sections are stained with the acridine orange solution for [illegible]

(2) Pour off excess stain rinse with distilled water

(3) Dehydrate as usual clear in xylol mount in fluoromount

Results—Neurophile is bluish grey while cortical tissue is a reddish orange

Method C Solution required

Acriflavine 0 1 per cent aqueous

Technique

(1) Stain with the acriflavine solution for two minutes then pour off excess and rinse in water

(2) Dehydrate rapidly clear in xylol and mount in fluoromount

Results—Neurophile is blue while cortical tissue appears brownish yellow

Intravital Staining with Fluorochromes

Dyes used for this purpose must be water soluble non diffusible in the living body non toxic in the workable dilutions required and highly fluorescent even in greatly diluted solutions Uranin possesses all these qualifications and is one of the most useful fluorescent dyes for intravital work as stated earlier in this article Acriflavine is another useful dye for this purpose although it is not so intensely fluorescent as uranin The fluorescence of uranin is impaired in basic solutions so that it appears most readily in organs of an acid reaction It is used in 0 1 per cent solution in physiological saline, in which form it should be injected into the animal's blood stream or into the organ to be studied The colour of its fluorescence varies with hydrogen ion changes and consequently it is of great value as an intravital hydrogen-ion indicator The colour changes are easily visible in dilutions to the order of one part in ten millions and in dilute solutions the intensity of the fluorescence has a definite relation to the concentration of the dye and consequently the intensity of the fluorescence serves as an indicator of the amount of uranin present Pontalin Thioflavine thioflavine B berberine sulphate have also been found useful for intravital work

Many important discoveries in the biological field are due to fluorescence microscopy and although a great many beautiful and highly contrasting

[illegible] found by the [illegible] present [illegible] [illegible] lines [illegible] embryonic stage and [illegible] ment both in regard [illegible]

[illegible]

[illegible] (1948) [illegible] **98** 2nd [illegible]

[illegible] (1940) [illegible] *Exp. Physiol.* **30** [illegible]

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ASCENSION MEMORIES

BY

Surgeon Captain E. MOXON BROWNE, R.N. (Rtd.)

There are not very many medical officers of the Royal Navy who have had the experience of serving in what was formerly H.M. Island Station of South Atlantic.

The Island passed into civilian control in 1922 and became a Sub-Colony of St. Helena under the authority of the Governor. Life there was very pleasant though very isolated and would not appeal to many. However there were many advantages. No daily papers, no loud speakers (except some of the wives), no motor cars or other modern nuisances.

We were informed as regards food, but looking back on it now, liberally. The food routine for the days of the week never varied: beef, mutton, corned beef and turtle. Each had its sacred day, which never changed. The corned beef of course could never be cut as we had no ice. It was poured out of the tin and eaten with a spoon.

As regards the day when turtle was the intended food, this of course suggests turtle soup. It was terrible stuff, we mashed it, minced it, stewed it and cursed it but usually gave it up and opened a tin of something else.

After a year of this I represented to the C.O. that to kill two turtles per week each about 500 lb. weight and to throw them to the sharks was a waste, after which we had another and better day in hen.

As one of the Royal Marines said to me: "Do you think, Sir, it is really humanly fair to eat a thing 100 years old?" As regards the age of the ration he was about correct. The average weight of the turtles with which we dealt was about 300 to 400 lb. and length about 3 ft. fore and aft. Twice a year the females landed to lay their eggs in the warm sand. The males after considerable turmoil in the sea discreetly remained where they were. The females having, indeed, went up the beach and with their big flippers dug a pit and buried

their eggs on [illegible] bring about [illegible] and the females returned to the sea.

When the eggs hatch out the young turtles on emerging [illegible] make off immediately for the sea where thousands must perish [illegible] enough many fish seem to know about this occurrence and [illegible] amongst the soft shelled young ones.

Ponds existed for the stowage of turtles collected for [illegible] was simple. You saw a turtle who had laid her eggs and [illegible] Although very heavy it is quite easy to upturn a turtle so long [illegible] are fore and aft. Sometimes for a jest a turtle was placed with [illegible] no matter with great effort and groaning it always turned [illegible] went back to the sea.

The diet of a turtle has always been a puzzle and so far as I know still [illegible] I opened the stomachs of several both recently caught and also after captivity and found nothing visible to the naked eye. The decapitated head of a turtle is an awesome sight. The eyes move and the parrot like jaws snap for quite fifteen minutes. The heart removed from the body will beat for some hours as also will isolated pieces of heart muscle.

While resident in the Island I received a letter from a Professor of Physiology in an English University who said he was interested in the development of the perfume of a "Chehane" of which he had heard. I had plenty of specimens available. "First idea!" What on earth is a chehane? My Greek dictionary solved the problem and I found that he was really talking of old turtles.

We selected a female turtle, marked the nest and did about six eggs daily returning the remainder. The Professor had told me what to do with the embryos so daily on my desk were six eggs. Front out the mouth and transferred them to bottles as ordered. From the day of laying to the production of the live turtle it is fifty-four days. I was told that this collection was unique.

I brought up some young turtles in tubs of sea water and for some reason they thrived on bulbous lights. After two years they were about 4 in. long and were then killed, stuffed with sand and varnished. I have several of them still as paperweights.

Every officer on leaving the Island was entitled to bring home a live turtle. Freight was free and one was always given to the Master of the ship. It was always understood that if all the turtles died except one that one belonged to the Master and quite right too.

On arrival one could either sell a turtle to John Lusty (Turtle Merchants) makers of turtle soup for £7 or get a credit for 8 quarts of soup. I chose the latter and for some time received as required jars of turtle soup delivered by messenger boy in my London flat in the form of jelly. All that was required was to warm it up. Thus we had plates of turtle soup such as was served at the Lord Mayor's banquets.

The time finally arrived when the Island was to cease to be an Admiralty affair and was to become a sub colony. Orders came that all guns were to be buried or sandbagged, pushed into the sea or otherwise disposed of. Then all explosives had to be dealt with.

A [illegible] has always been kept in [illegible] Make and Mend [illegible] [illegible] upon for that day Ten tons of cordite 300 [illegible] [illegible] distributed on the beach and a train laid A [illegible] French [illegible] a Major in the R M A had brought up a and fixed up [illegible] boiler [illegible] which he stuffed with sticks of cordite thus making a giant rocket

We touched it off but half way up the tube the explosion came and bits of boiler tube were scattered all round us Some pieces of boiler tube were found [illegible] of a mile off

On other occasions was of interest While having a week end on Green Mountain a sailing vessel hove in sight as we thought to make her number by flag but she signalled to London by cable On this occasion however the signal mast Chasing Island require medical assistance She was the *Mount Stewart* a full rigged sailing ship 85 days out from Melbourne and bound for Falmouth [illegible] with grain By flag she was told to close and anchor There was plenty of time so I [illegible] a horse and rode the six miles into Garrison and set about collecting a sled to pull off being Sunday no steamboat was available is most [illegible] the ship's company were widely scattered and beyond recall In the end a [illegible] was collected and all of us taking turns to pull got aboard As the ship was not anchored but merely hove to we had to pull nearly 3 miles because the ship was drifting with the trade S E wind Subsequently we got alongside and the skiff made fast to a grass line to the second thwart It was not fun [illegible] minutes but of course the skiff veered off and duly sank to the limit of the line Then the call came for all hands on deck to hoist the skiff inboard [illegible] operation was duly accomplished after about forty five minutes By the time [illegible] the hose gent from the skiff had gone with the wind So the [illegible] Avast gulley This Gut was normally hoisted keel up [illegible] in the quickhouse on the port side it was interesting to watch a yard [illegible] and the galley hauled outboard None of the [illegible] was recovered but the Master said it was very good exercise for the [illegible]

The patient who was the cause of this evolution had a fractured tibia and fibula and had been finely well splinted three weeks previously

The master refused my suggestion that the patient should be landed saying that a broken leg was *nothing* and that meanwhile the ship hoped to be in Falmouth *three weeks later !*

All this occurred about seven bells in the forenoon and the master said Well Doctor I hope to get you back again before dark ! Accustomed as I had been to steamships I was somewhat surprised

However all sails were set and we went 10 miles to seawards before it was possible to go about and arrive at our original starting point

I noticed that with all hands manning the yards it was three quarters of an hour after the helm had been put down that all the sails were full on the other tack

I heard that the reason why the ship did not anchor as ordered was that the cable had been stowed in the chain locker and would not be required

until [illegible] Sister of Peter Simple [illegible] less show [illegible]

Thus [illegible] mal [illegible]

A [illegible] games [illegible] other [illegible]

The only [illegible] get all one-self with [illegible]

There were [illegible] children [illegible] On one occasion I had to use axis traction forceps for the first and only [illegible] in my life but by the study of the wonderful book by Mr Eden all went well

When the child arrived in this world he had a terribly elongated head [illegible] when I met him thirty years later he was quite normal

The Medical Officer had also of course to be a dentist I am glad to say that one metal filling I put in (a back molar) is still doing its job after thirty years Extractions were numerous but generally speaking did not cause much pain either to the patients or myself

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SIDELIGHTS ON HISTORY

BY

"SCALPEL"

THE Old Workhouse or R N Auxiliary Hospital Newton Abbot will be remembered with affection by many who served there in World War II

Nominally of 400 beds it was situated on a steep hillside in fact in the old workhouse of the town the facilities of which were enhanced by the addition of an E M S type dental theatre and and by other minor additions and alterations

It was originally intended to serve as a convalescent R N Hospital but that hope died in actual fact it was full by weekly and sometimes bi-weekly convoys from R N Hospital Plymouth and at the end of the war it received many patients from large R M Establishments at Lympstone Dartmouth and on Dartmoor as well as from R N Establishments at Exmouth Teignmouth Dartmouth and Brixham

World at any rate at the end of the war was heavy General surgical hospital theatre mornings a week and E N P from The medical and other departments were equally busy

One of the pleasing features of the institution was the friendliness and remarkable family spirit displayed not only in the hospital itself but by the townspeople in their regard for what they felt was their special part of the

war effort. Names that especially sprang to mind are those of Dr. and Mrs. Dadd at the Commercial Hotel, and the members of the Constitutional Club. But on all sides there was a desire to help, and at a time of housing shortage and difficulty in hotel accommodation, especially for those with young children, the citizens gave the medical staff more than a fair deal.

Some of the kindnesses we were able to repay, and the hospital I think reached its zenith in the town on V.E. night. During that day, one could not have failed to be struck by the pathetic absence from the celebrations of British club hooked men of military age. There were Americans, yes, also hospital staff, boys, old men, and a few railwaymen. But in general the wives and sweethearts of Newton Abbot had their men at the war, and the celebrations were consequently a trifle lame.

That evening the Medical Mess gave a cocktail party, and later, suitably fortified, sailed out on to the street to liven the revels.

As the crowds were dense (and somewhat sheepishly inclined to do nothing but get in the way), it was natural to link arms to maintain contact, medical officers fraternizing with sisters or W.A.D.s, and to proceed snakewise down Queen Street. Thus we very soon found ourselves leading, a giant, stately and nobly democratic conga to the plaudits of the appreciative crowd. The Chaplain, the starter, was at the stern of the line, however, on turning about to retrace our steps, he found himself in the lead, and did well. Whether he or the crowd were the more surprised by this unrehearsed *tour de force* was a debatable point.

The next game was to form a chain and dance Ring a Ring of Roses round the Clock Tower (of the old Church) which stands foursquare in the centre of the main street. This was enjoyed by all, and went on for hours, the only difficulty being to occasionally having to reverse a ring consisting of three or four hundred happily singing people.

Just on midnight the thirsty hospital contingent (who had also been singing, and serenading their friends) prepared to withdraw. It formed up in fours as for ceremonial drill in the shadows outside Dr. Dadd's consulting room (otherwise known as the Commercial Hotel). Our Warrant Wardmaster now placed himself at our head, wielding a baton, and announced that we would MARCH home, at the same time making musical noises like a band, and taking the time from him.

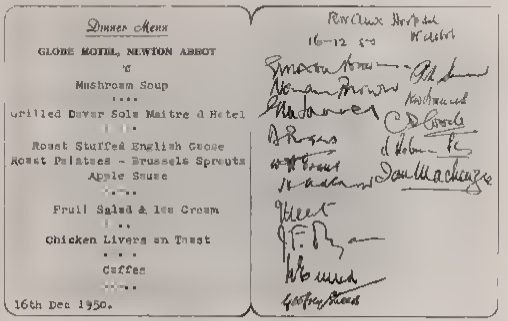
We stepped off martially, first to the tune of "A Life on the Ocean Wave". This was too much for the Surgical Specialist, who halted the squad, reminded them that they were a Naval contingent, and insisted on "Hearts of Oak". Feeling slightly self conscious, we then advanced to the proper tune, and—to our surprise—the populace, several thousand strong, cleared the street, lined the pavements, and cheered and clapped us to the echo as we passed.

Feeling startled, and rather proud that such an "un passer" display should arouse such genuine and warm feeling for the Service, we continued to the traffic lights, wheeled left, stopped singing, and licked our dry lips with dried tongues while still keeping in step.

[illegible] I had a feeling [illegible] I was [illegible] also in [illegible] stitched [illegible] street [illegible] and the [illegible] It was a startling and [illegible] moment [illegible] and—after we had all looked [illegible] and—our first [illegible] was that it would insist on following us into the hospital

[illegible] our Drum Major was equal to the occasion Halting and left turning us at the hospital gates he gave a ringing command Civilians Left wheel We waved goodnight as the long column Marched past and turned away down a side street leading back to the town centre They took minutes to go by then we retired gratefully to bed

This year a hospital reunion dinner was held for the first time in Newton Abbot and for the organization of which Surgeon Commander Gent deserves the thanks of the participants A good muster duly turned up to celebrate on cold December night The signed menu may be of interest and is probably the most published token to mark a reunion of any Royal Naval Auxiliary Hospital



Dinner Menu

GLOBE HOTEL, NEWTON ABBOT

Mushroom Soup

Grilled Dover Sole Maitre d Hotel

Roast Stuffed English Goose
Roast Potatoes - Brussels Sprouts
Apple Sauce

Fruit Salad & Ice Cream

Chicken Livers on Toast

Coffee

16th Dec 1950.

Royal Naval Hospital
Wrafton
16-12-50

Douglas Mackenzie

While it had none of the shipshape luxury of Barrow Gurney nor the rural spaciousness of Kingseat Newton Abbot certainly had its share of its own albeit with a marked Dickensian flavour

Through the kindness and labour of Commander (S) Beechy Rogers who served at the hospital literally from first to last, I am able also to publish a list of all officers who served at the Old Workhouse I hope it will be with their approval that I place this small piece of Naval Hospital history on record

[illegible] NAVAL AUXILIARY [illegible]
NEWTON ABBOT
1939–1945

[illegible]	[illegible] J. Gowans		[illegible]
	[illegible] Rogers		[illegible]
	[illegible] W. Francis		[illegible]
	[illegible]		[illegible]
	[illegible]		[illegible]
	[illegible]		[illegible]
16 Sept	[illegible]		
21 Sept	[illegible]	RN	[illegible]
23 Sept	[illegible]	RN	[illegible]
29 Sept	[illegible]	[illegible]	[illegible]
29 Oct	[illegible]	RNVR	(SD) [illegible]
	[illegible]	RNVR	(EN)
	[illegible]	RNVR	(S)
31 Oct	[illegible]	RNVR	(N)
	[illegible]	RNVR	[illegible]
5 Dec	[illegible]	RNVR	
	[illegible]	RNVR	
	[illegible]	RN	
9 Dec	[illegible]		
1940			
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
1 Mar	[illegible]	RNVR	[illegible]
1 Mar	[illegible]	RN	[illegible]
15 Mar	[illegible]	RN	[illegible]
[illegible]	[illegible]	R	[illegible]
5 [illegible]	[illegible]	[illegible]	[illegible]
18 [illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
2 [illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
1941			
[illegible]	[illegible]	RNVR	[illegible]
5 [illegible]	[illegible]	RNVR	[illegible]
5 [illegible]	[illegible]	RN	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RN	[illegible]
1942			
22 [illegible]	[illegible]	RN	[illegible]
[illegible]	[illegible]	RN	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RNVR	[illegible]
[illegible]	[illegible]	RN	[illegible]
[illegible]	[illegible]	QARNNS	[illegible]

1943			
22 Jan	[illegible]	Lieut.	Vice Martin
13 April	[illegible]	RNVR	Boyd
27 May	J. D. Bradley-Watson	RNVR	Murray
22 June	M. D. G. Hesford	RNVR	Ryan
22 Aug.	J. G. Boal	RN	[illegible]
7 Sept.	P. N. Simons	RNVR	[illegible]
15 Sept.	J. C. Cent	RN	[illegible]
30 Dec.	Tom Mortimer	RNVR	[illegible]
1944			
14 Jan.	Miss Garner	QARNNS	Vice Colonel [illegible]
22 March	D. H. Kermohan	RN	[illegible]
16 June	Miss Coleman	QARNNS	[illegible]
18 July	S. Gay French	RN	[illegible]
2 Sept.	Ian Mackenzie	RNVR	[illegible]
9 Sept.	Miss Kennedy	QARNNS	[illegible]
29 Sept.	Miss Venlin	VAD	[illegible]
7 Oct.	A. M. Blackstock	RNVR	Vice [illegible]
16 Oct.	R. S. Cook	RNVR	[illegible]
28 Oct.	C. D. Coode	RN	[illegible]
1 Nov.	J. O. Clyde	RNVR	[illegible]
1945			
26 Feb.	R. A. Magg	RNVR	Vice [illegible]
27 Feb.	Miss Wakeham	QARNNS	[illegible]
31 March	G. F. Stewart	RNVR	[illegible]
2 April	W. G. Gill	RNVR	[illegible]
12 April	J. L. Holgate	RNVR	[illegible]
31 July	B. F. Mahoney	RNVR	[illegible]
1 Aug.	Miss Halahan	VAD	[illegible]
12 Aug.	R. M. Phillips	RN	
6 Sept.	C. I. Murray	RNVR	
8 Sept.	J. R. Leonard	RNVR	[illegible]
26 Nov.	W. B. Martin	RNVR	[illegible]
8 Dec.	C. H. Birl	RN	[illegible]
1 Dec.	H. F. Dare	Warrant Officer, WM, RN	[illegible]
19 Dec.	J. A. Dixon	RNVR	[illegible]
26 Dec.	G. Winscoupe	RNVR	[illegible]
1946			
31 Jan.	D. R. Syrod (Lt. (O.W.))	RNVR	[illegible]
	[illegible]		
1946			
31 Aug.	J. E. Friend, Lieut. Wardroom [illegible]		
19 Oct.	W. H. Edgar, Lieut. [illegible]		
14 Sept.	[illegible] S. Stewart (RNVR Wardroom [illegible])		
[illegible] Dec.	A. M. Pick-Dick (Rehearsal)		
1946			
8 Jan.	[illegible] S. [illegible] (Rehearsal)		
10 Jan.	J. [illegible] (Rehearsal)		
17 Jan.	Tom Mortimer (Rehearsal)		
17 Feb.	D. R. Syrod (Apparatus [illegible])		
8 March	[illegible] M. Phillips [illegible]		
8 March	[illegible] Winscoupe [illegible]		

[illegible]

1945 [illegible]

1946 [illegible]

[illegible]

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

COMPARISONS OF THE NAVAL, MILITARY, R.A.F. AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

PART IX

BY

Surgeon Captain R. C. MUNDAY, C.B., M.R.C.S., L.R.C.P., R.N. (Rtd.)

There were 1,000 boarders at Greenwich School and 100 day boys. I had 130 beds in the Infirmary and a staff of one Matron and three nurses. In addition there was a block of two wards for infectious cases, but I was not allowed to keep any cases of scarlet fever or diphtheria. Cases needing major surgical operation could be sent across the road to the Seamen's Hospital.

For many years my predecessors had the advantage of what was tantamount to a partnership with a General Practitioner living close to the School and College. This gentleman was paid a regular salary by the Admiralty in return for which either he or his partner would be on call for any emergency occurring in School or College in my absence. He would also be at my disposal at any time if I required a consultation. Naval medical officers of the seniority suitable for the Greenwich appointment were naturally inexperienced in the ailments of children who were in their first two or three years at the School.

so during the early months of my appointment I [illegible] of my civilian colleague's experience acquired in two [illegible] his present Practice He was on the visiting medical staff of the [illegible] Hospital he was also familiar with the routine of the College and School and conversant with naval medical forms and regulations He told me soon after I arrived that all my predecessors for the last twenty or thirty years had worked him very hard as a consultant in their first two or three months I soon became familiar with skin rashes and other apparently alarming symptoms common amongst little boys suddenly put under the discipline of a good Public School taught to be tidy clean and punctual to work hard and to play hard and to wear uniform clothes to get accustomed to sleeping in big dormitories with open windows and working in school rooms finished with fresh air

Probably the most revolutionary experience for the newcomer was the quality and quantity of the food he received at the School I can honestly say the quality was better than at my own boarding school and the quantity greatly in excess of what I was given It is therefore not astonishing that new boys took some time to assimilate the changes in their environment mental and physical I was at first shocked to see the enormous amount of good food which some boys would extract from their loaded plates and place in a dish provided for the purpose as being in excess of their requirements I found that this daily mass of redundant food was sold by contract to pig keepers The Captain and the Paymaster explained that it was impossible to cater accurately for the individual appetites and requirements of 1 000 boys if one were to divide them into age groups or seniority in the School groups for as I saw frequently observed in my annual entry medical exams and subsequent annual exams of my two boys of the age of six 14 one was in appearance a man of adult stature age and size with fully developed pubic organs and stature while the other was as yet only a child in physical appearance there were of course gradations between these extremes with their consequential variation in appetite and requirement It was therefore decided by the Admiralty that calculation of the quantity of food supplied to the school should be based on the normal appetite and requirements of the physically fully developed boy in order to be sure of producing the best physical and mental results when the boy should join the navy at 15½ years of age

No doubt this would amount to gross extravagance if applied in present conditions but the nation could afford to be extravagant in a grand cause in those days As to disposal of the surplus food an attempt to distribute it to the poor of the neighbourhood failed Either they were not poor enough or too proud or prejudiced against cookeal and reported scraps After a good trial the scheme had to be abandoned in favour of swill for pigs

The First XI footballers out of 1 000 boys playing every day was bound to be good while I was there Greenwich Hospital School was never beaten although they played against local men's clubs It was most entertaining to watch these little boys making circles round fully grown men by means of

guile and style I think every boy of the thousand was keen and an actual player not only an onlooker They were divided into divisions corresponding to Houses in Public Schools Inter Division matches were keenly contested and closely watched by selectors of the first XI for new and special talent

Cricket *per contra* was not their strong point although the Chaplain the good and great Dallas Brookes was a famous all round cricketer and spent much of his spare time coaching the boys I also did what I could and so did the Paymaster but we failed to discover anything like the talent for soccer

About the middle of my time at Greenwich there occurred an amusing incident affecting the whole school for precisely one day In the outside world there was a series of disturbing strikes resembling an epidemic of unrest The infection somehow spread to our well conducted School all unsuspected by the masters the Captain the Chief Officer (a retired Warrant Officer) and the Divisional Officers (retired C P O s) Suddenly the boys with one accord ran out of school and refused to go back The astounding thing about it was that it was not until the Captain had been informed of the failure of his Staff to cope with the mutiny that it was quelled He ordered dinner to be served in the dining hall and the bugle to be sounded The boys trooped in flushed with success in their adventure The Captain merely ordered them to march round the tables they obeyed He then said Have a good look at the dinner because you won t see it again today They were then marched about the playground in small detachments until they were very subdued after that School to make up for lost time Tea was a sad and quiet meal The ringleader was well and truly caned and expelled There was no more trouble

Towards the end of my time at Greenwich I was surprised and somewhat alarmed to be summoned to see the Director General Sir James Porter He informed me that I was appointed a member of an Admiralty Committee on Boys Training Establishments with instructions to report as to whether boys should be housed in barracks near the sea or whether the old system of housing and training boys in old wooden battleships should be maintained The Admiralty had been increasingly alarmed by the high incidence of disease and invaliding of boys under training Boys who had passed a very strict medical examination were filling naval hospitals with numerous cases of acute rheumatism complicated with permanent heart trouble cases of tonsillitis and pulmonary tuberculosis and of middle ear disease

The other members of the committee were Admiral De Robeck who had been Captain of Training Ships and Captain Fanshawe fourth Sea Lord The Secretary was a senior Admiralty clerk who proved to be of the utmost assistance to me in my difficult position as a comparatively junior officer with no previous experience of committee work While serving on the committee I retained my official residence and emoluments with the duty of general supervision of the work at Greenwich which was to be performed by a Surgeon Commander a few months junior to myself This also was a difficult position for us both I had an office at the Admiralty for my committee work and I returned in the evenings to go round the wards and discuss matters of the School and College with my colleague

I soon saw that I was in the minority and could not [illegible] report drawn up by the Chairman and the Fourth Sea Lord They were in favour of the old system of training where the boys were housed and where they were going to serve in ships afloat I ventured to take the line that this line of argument was mere sentimental than practical and that though the old ships were afloat they were not seagoing and never would be again I maintained that one could not agree to continue to countenance boys living in unnecessarily overcrowded conditions studying in classrooms with insufficient light and air and having totally inadequate ablutionary and sanitary arrangements for sentimental reasons It seemed to me like the old arguments in favour of sail against steam

I wrote a minority report giving health statistics comparing those of the old system with Greenwich and Shotley I then gave the Board of Education's regulations for space in classrooms of council schools per boy for window area and candle power lighting in winter and recommended that in Barracks the Admiralty as one Government Department should not be inconsistent in its standard of hygiene with another Government Department the Board of Education

There was I am told much discussion by the Board of Admiralty but Winston Churchill was First Lord then and he did me the honour of deciding in favour of Barracks as against old ships Before this policy could be carried out the 1914–1918 war broke out and the whole question receded into the background of even more urgent matters

But no sooner had the topic of boys training been disposed of than there came to light the serious prevalence of tuberculosis in the navy As a first step to removal of one of the causes the Medical Department recommended the setting up of a Committee to report on ventilation in H M Ships and make proposals for improvement The Committee had for its Chairman a Vice Admiral The members were Dr Haldane of Oxford University who had done an enormous amount of good work in investigating the poisonous gases in coal mines and improving their ventilation He was probably the foremost expert on ventilation of buildings of all kinds from homes to factories He certainly was the life and soul of the committee King's College London provided its Professor of Hygiene who had very strong views as to the importance of hygiene in combating tuberculosis One of the most indispensable members of the committee was a representative of the naval constructors department for if he vetoed a proposal for improvement on the ground that it would weaken the structure of the ship or part of the ship it would be difficult if not impossible to carry it out

I was selected to represent the Medical Department as a member and also Secretary of the Committee This was a whole time job and from this time 1913 until towards the end of 1917 (when I was loaned to the Air Ministry) I was Assistant Director General The Committee began by visiting every different type of man o' war and carefully examining the means of ventilation both natural and artificial in harbour Apart from defective planning of some of the means of artificial ventilation ventilation in harbour for cool

[illegible] and [illegible] is good as it is possible in a fighting ship. As instances [illegible] we found that supply fans had been installed in com- [illegible] but air was generated viz. latrines, bath places [illegible] with the result that a highly objectionable and unhealthy [illegible] out of such places into the sleeping and messing spaces whereas if [illegible] had been fitted instead of supply fans the objectionable atmosphere would have been removed and expelled high up on the upper deck or superstructure. The results of this unfortunate planning were of course aggravated at sea when it became necessary to close ports and hatches.

The committee decided to spend some time at sea examining ventilation in foul weather in many different types of ships. I was afraid that my learned colleagues would find the discomforts of rough but weather not only disagreeable but hampering to the purpose of their voyage. Both these rather elderly gentlemen however seemed to revel in the foulest weather even when their cabins were flooded with a mixture of sea water and coal dust. They declared the battening down afforded a splendid opportunity for obtaining interesting samples of air from the living and working spaces between decks.

We explored the whole ship in each case from stem to stern on every deck. It was obvious that the position of the cowls and other ventilators was too low to prevent the entry of water even in moderately bad weather and in some cases we found cowls leading from exhaust fans discharging foul air in proximity to cowls intended to supply fresh air.

We had the good fortune while inspecting a French man of war to discover a very simple form of mushroom top ventilator which could be kept open even on the forecastle when green seas were coming over it without admitting water and yet admitting air in the intervals between the green seas. When we saw this ventilator we were incredulous of the advantages claimed for it but we fitted it fitted on the forecastle of a new battleship and went to sea to [illegible] what really happened. The Captain scoffed. We soon got weather during a full speed trial which was a perfect test. We saw from the bridge the French ventilator completely submerged time after time and yet when we went below it was clear that no water had been admitted although the fan was sucking air through it.

The miracle is produced by a device which guides the temporarily admitted water round a circular platform on the inside of the ventilator from its entrance hole to its exit on the opposite side. Of course if the ventilator be submerged for a long enough period the water would rise to the top of the circular platform and pour over the edge of the tube conducting the air down to the fan but the duration of the submerging wave is too short to allow of this. I induced the Captain to see for himself and to give written testimony to the efficacy of the French type ventilator which was eventually adopted in all ships. We had a little trouble in getting consent to the elevation of cowls to a height which enabled them to be kept open in very heavy weather.

So many matters seemed so urgent that an Interim Report was issued. The constructor found himself in a minority and was concerned wholly and

[illegible] his colleagues to agree with him that the present state [illegible] all that could be accomplished without injury to the fighting efficiency and seaworthiness of the ships.

We all agreed that he was a very clever man, but he was like Molotov, never could say anything but no. Things came to a head when he absented himself on two successive occasions from Committee Meetings, and the Chairman was obliged to ask the Construction Department to give us another representative. He proved to be a different type of man altogether and was of enormous help. A suspected sufferer from pulmonary tuberculosis himself, he was keenly interested in good ventilation. He was a courteous gentleman and as proof of his ability as a constructor he was in fact the actual designer of the Dreadnoughts and when the great Churchill was First Lord he used to send for Mooney, our new colleague to consult him as to the feasibility of this or that improvement proposed by high ranking executive officers. All this time Churchill was not popular with naval officers. Mooney was deeply impressed by Churchill's grasp of affairs at the Admiralty from problems of naval construction to the lessons to be learnt from the recent large-scale realistic naval manœuvres. The Committee had heard much of the admirable issues of ventilation of American warships at sea, and a sub-committee consisting of the Chairman, Mooney and the writer went to the United States by mail steamer to see for themselves what the American had got to show us. After some preliminary sparring between the two Foreign Offices as to exactly why we wanted to go and how much we wanted to see, we were very hospitably received by two leaders in guns in the shape of a young Commander of the executive branch and a Lieutenant Commander of the construction branch.

Two things made a vivid impression on us, one was the enormous amount of labour and material that had been expended not only on natural ventilation of every part of every ship but also on facilities for preparing food, for cooling by electricity and for ablutions and scullery duties. The other remarkable point noted by Mooney was the startling lack of battle worthiness and indeed of seaworthiness in otherwise fine ships.

For instance the area of the hatches in the upper deck were so great that Mooney felt sure that shells bursting in their vicinity would set the ship alight between decks and blow up her magazines. Even I noticed that bulkheads which purported to be watertight had spaces through which daylight could be seen between ventilation shafts and tubes and the rim of the holes in the bulkhead through which they passed. Relations between the two Admiralties were not at all as cordial as they have been during and since the two great wars. And Mooney and the Admiral were politely asked to refrain from entering the gun turrets and other places where important fighting equipment was kept. I was permitted to move freely throughout the ship and all my questions were answered in full.

I noticed that one Irish American Naval Surgeon differed from all the other naval officers I dealt with in that he was evidently hostile and parried

all my questions by firing an unending stream of queries at me as if he had been a press reporter and I a V.I P All his colleagues were most helpful and put stenographers at our disposal to take shorthand notes Of course this gave our hosts ample opportunity of unobtrusively censoring our reports but in fact it must have demonstrated to them our singleness of purpose, viz to see how we could learn from them how to improve the ventilation of our ships.

In our report although it was outside our terms of reference we recommended the American system of drinking water fountains which squirt water straight into the drinker's mouth avoiding the use of cups or contact of the lips on any part of the apparatus We described also their labour saving devices in preparation of food and in bulk cooking We mentioned the superiority of their menu but having much to ask of their Lordships in new systems of ventilation we dared not risk giving them indigestion

In the end our final report was adopted and I was allotted the job of scrutinizing all plans of all new ships before their final approval and adoption so that I could satisfy myself that the recommendations of the Committee were actually embodied in the plans sent to the shipyards It was also part of my duty as Assistant Director-General to visit all ships under construction in private and Admiralty dockyards to see that the plans had been strictly adhered to as regards ventilation I was empowered to go to sea on the trials of all new ships and report to the Director-General on all matters of habitability and hygiene under seagoing conditions and conditions obtaining during action stations

This entailed much night time travelling to the far north of Scotland and the islands in those waters It was brought home to me how early in the afternoon the night comes on when men must not cease working especially in wartime

Just before the 1914 war broke out it will be remembered that the whole fleet was mobilized for manœuvres and a large contingent of senior cadets from Dartmouth was detailed for embarkation in the battleships and battle cruisers Two days before the manœuvres the Captain of the College wired that scarlet fever had broken out amongst the cadets and that he and the P M O recommended that the College should be regarded as under quarantine and the embarkation cancelled Admiral Jellicoe was very disappointed and Churchill also So much so that the Director General was consulted as to what he thought of the risks involved

He said he would look into all the circumstances and give an answer next morning at 9 a m This was at lunch time He then told me to take the next train to Dartmouth have a look round discuss matters with the Captain and the P M O come back by night and hand him my report at 8 45 a m Trains happened to fit in I ascertained that the contacts of all the cases had been isolated and that as usual the type was very mild

After discussion with the Captain and P M O who stuck to their original opinion but gave me a very good dinner I caught the night train wrote my report had some sleep took the report to the night typist and put it on the

D[illegible] General's desk as he entered his office. I su[illegible] [illegible] is could [illegible] provided that they were medically ins[illegible] [illegible] and every [illegible] and ordered to immediately report any malaise or [illegible] of scarlet fever at any time day or night to the medical officer. I [illegible] that it should be possible to rig a temporary isolation hospital in each ship receiving Dartmouth cadets and to isolate their sleeping and messing accommodation from the gunroom during their stay in the ships.

My suggestions were concurred in and adopted. no spread of the disease occurred.

(To be continued)

Clinical Notes and Cases

A CASE OF AORTIC ANEURYSM

By

Surgeon Lieutenant H. R. MALLOWS, R.N.

A CHINESE store assistant walked into the Surgery on 23rd October 1931 with a certificate from a private doctor stating that he was suffering from thoracic aneurysm and advised to retire from work. He was aged 49 and had had thirty two years service in the dockyard. He had last attended for duty one week previously on 16th October 1931.

He only complained of pain in the chest which he said he had had for eight years. On further questioning he said that he had had some swelling of the chest for about three days two years previously, also that he had awakened [illegible] three nights before unable to get his breath.

[illegible] 120 R. 38. He was markedly dyspnoic even at rest sitting [illegible] was also cyanosed. The cervical veins were congested and there was [illegible] pulsating, 2½ in. in diameter which had eroded through the sternum at [illegible] and third ribs on the left side. The apex beat was displaced to the [illegible] and there was a soft systolic murmur at the apex [illegible]. The blood pressure was the same in each arm 126/64. [illegible] had a brassy cough. The trachea was deviated to the [illegible] marked dullness over most of the left upper chest anteriorly and [illegible] there was marked dullness marked diminution of air [illegible] perhaps of the left lower lobe from pressure of the aneurysm [illegible] and the liver was not palpable.

[illegible] shown in fig. 1 which also shows the [illegible] actual size of the aneurysm and the sum of the [illegible] right 2 (more detail including some of the [illegible] being visible in the original negative was lost 3 and 4 [illegible]).

[illegible] congestion [illegible] and localised.

He was treated with [illegible] cough. After one week his fever had [illegible] perfectly well again and [illegible] appeared to be [illegible]. The Kahn test was [illegible] twenty years previously. [illegible] W.B.C. 12,400 polys 83 per cent. lymphs 18 [illegible] pressure was 140 mm. at the right root [illegible] pulsating, [illegible] of the ascending aorta with calcified plaques [illegible] part of the left first and second ribs possibly [illegible]

[illegible]

Fig. 1

Fig. 2

Fig. 3

Fig. 4

[illegible]

Syphilitic aortitis is [illegible] the original infection, the latent period averaging about [illegible] (Lowe, 1934.) As the universal treatment has been in use now for [illegible] thirty years, these late manifestations should be increasingly uncommon but, until such time as syphilis can be

treated effectively and completely in a few weeks such [illegible] will [illegible] recur sporadically particularly amongst seamen and the [illegible] of full moon these patients frequently defaulting in the [illegible] treatments either because they are unable to carry on with treatment while at sea or because they will not trouble to attend once the original sore has healed

This case first attracted attention by the size of the lump on the chest which provided a simple exercise in clinical photography and which was something of a curiosity to one whose previous training and experience had been acquired west of Suez though it did not even approach the entirely bizarre character of the case described and illustrated by Lewis (1950) This patient was also a Chinese male but from Malaya and the aneurysm had eroded from the second to the seventh ribs on the right side and appeared from the photograph to be bulging out about 1 in from the chest wall It was also of interest in view of the size of the aneurysm and the fact that it was affecting the ascending aorta to find no evidence of any aortic regurgitation

It was thought worth recording however chiefly as an example of the remarkably stoical attitude towards serious illness which is still forced upon the more backward races by the scarcity and expense of medical treatment

I am indebted to Dr P B Wilkinson for allowing access to and reproduction of the records made whilst the patient was under his care in Queen Mary Hospital and to the Honourable Director of Medical and Health Services Hong Kong Dr I Newton for permission to publish these records

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SURGERY AT SEA

BY

Surgeon Commander C B NICHOLSON R N

The correspondence which has taken place recently in the Medical Journal on the subject of operations at sea makes me feel that recent experiences in H M S *Vanguard* would be of interest The operating theatre in this ship is small but hard of access being below the armoured deck but is well ventilated from the point of view of the ship's movement at sea and is equipped for very many but major surgery It is of course fully recognized that surgery under these conditions is very different from what would be expected in a less well equipped ship Whilst there would be no indications for interval in non urgent surgery on board it is considered that an important point not brought out in this correspondence is the paramount necessity for teamwork and facility of organization when the rare surgical emergency which knows

[illegible] It is unnecessary [illegible] further on the need [illegible] technique sterility, anæsthesia, technique pre and post operative treatment, but the question of [illegible] diseases come to mind also in this respect. In addition the following subjects and emergencies were dealt with.

The list of operations carried out in this ship is very small indeed, apart from minor surgical procedures. Indeed on one occasion recently the ship was for twenty-one days partly in tropical waters away from effective shore hospitals, it was necessary that surgical facilities should be available and advantage was taken of two periods in need of circumcision to establish a routine and theatre routine.

Case 1. — With a history of [illegible] pain in the Commander [illegible] who had been effectively well before leaving [illegible] with a history of rapidly increasing [illegible] abdominal pain [illegible] although [illegible] fulminating appendicitis was made and the operation [illegible] found to be full of fluid [illegible] other [illegible] appendix [illegible] the [illegible] pain, through a proximal [illegible] was removed [illegible] discharge [illegible] healing [illegible] occurred to [illegible] resulting [illegible] which [illegible] and in fact [illegible] at which he returned to England [illegible] the last [illegible] passage. He was [illegible]

A Uniformed [illegible] joined the Royal Naval Hospital Chatham [illegible]

[illegible] Whilst [illegible] aged [illegible] [illegible] 200 [illegible] operations [illegible] 1948 [illegible] abdominal [illegible] operations [illegible] discharge [illegible] healing [illegible] Royal N.V.R. [illegible] and [illegible] Petty Officer J. Fletcher and his staff for their [illegible] in the nursing of the patients.

THE USE OF AUREOMYCIN IN AMŒBIASIS

A Report of Four Cases

BY

Surgeon Lieutenant P. J. PRESTON, R.N.

Following the report of McVay, Lund and Spirm in Science which [illegible] aureomycin is reported as being effective in the treatment of intestinal amœbiasis, four European cases suffering from this disease were so treated in R.N. Hospital, Trincomalee. Two Asiatic cases are also reported.

The European cases were both relatively low grade infections with no evidence of hepatic spread in moderate health, only suffering from an explosive diarrhœa of variable frequency. In only one of these European cases was the presence of phagocytic amœbæ demonstrated, in the other cases where cysts of *E. histolytica* were found in abundance there were also changes in the mucous membrane of the colon which could be classified according to Mann in both criteria of sigmoidoscopic findings in this disease, is acute, there is there a number of small and scattered ulcers separated by normal mucosa, the bright save for the presence of occasional petechial haemorrhages.

Two further cases in Asians were seen, both with acute amœbic and marked sigmoidoscopic changes. All four cases were treated with aureomycin.

Case Histories

Case I.—L/S B.A., aged 23.

This patient gave a history of intermittent bouts of explosive diarrhœa of six weeks duration. The stools had contained mucus and on three occasions had shown cysts of *E. histolytica*. The hæmoglobin was 74 per cent. Treatment was started as an out patient, aureomycin being given in the following doses: 0800, 1300 and 1200.

Day	Dosage	Complaints	Stool nature	Stool direct examination
1	0.5 gram, 0.25 gram, 0.5 gram	Slight nausea in morning.	Liquid, positive and cysts of E. histolytica organisms.	[illegible]
2	1.0 gram, 0.5 gram each time	Slight nausea in morning.	Liquid, positive.	
3	0.5 gram, 0.5 each time	None	Liquid, negative, [illegible]	
4	0.5 gram, 0.5 each time	None	Liquid, negative.	
5	0.5 gram, 0.5 each time	None	Liquid, negative.	—
6	0.5 gram, 0.5 each time	Liquid, brown tinge. Slightly brown tongue.	Liquid, negative.	Liquid, negative.
7	0.5 gram, 0.5 each time	Brown tongue.	Liquid, negative.	
8	0.5 gram, 0.5 each time	Tongue clearing.	Liquid, negative.	
9	0.5 gram, 0.5 each time	Tongue clearing.	Liquid, negative.	
10	0.5 gram, 0.5 each time	Tongue clear, right.	Liquid, negative.	

18.75 gram Total dosage

The brown tongue accompanied by soreness which developed on the [illegible] was the condition which is frequently seen during the prolonged administration of [illegible]. Between the vallate papilla, both at and the tip of the tongue and [illegible]

with the median tip [illegible] a yellow furred tongue [illegible] residual striped appearance. Within [illegible] time the yellow furred tongue changed [illegible] brown and later to a darker [illegible] brown in the central parts [illegible] the periphery remaining lighter. The edge of the tongue was not affected by the process. Taste is impaired and the mouth is dry. It is thought that when tetracycline and penicillin are given the number of Gram positive commensal organisms in the bowel diminishes [illegible] the result that some vitamin [illegible] possibly part of the vitamin B group is no longer synthesized. The products of bowel organisms have not been fully investigated but in vitro and in vivo [illegible] thiamin riboflavin thiamin nicotinic acid and vitamin K in significant quantities has been demonstrated by Backholder and McKeigh. Certainly this condition of the tongue can be prevented during courses of penicillin and aureomycin by the administration of marmite or [illegible] and nicotinic acid from the start of treatment. Follow up for Case 1. Six months no recurrence and normal stools have been seen.

Case 2.—Naval Officer aged 38.

This patient gave a history of intermittent diarrhoea with [illegible] stools and amœba which had been present for about [illegible] weeks. His diarrhœa tended to be post prandial. There was some tenderness over the ileocæcal region.

Sigmoidoscopy showed small ulcers on a [illegible] and [illegible] tetracycline and [illegible] phagocytic amœbæ were obtained from the ulcers.

In view of the nausea and tongue changes which had occurred as in the first case the daily dosage of aureomycin was altered slightly and nicotinic acid and marmite were given from the start of treatment. Although a nausea still occurred the tongue in this case remained unchanged throughout the ten days treatment.

Day	Dosage	Complaints	Stool culture	Stool direct examination
[illegible]	[illegible] gram 1 gram	Nausea	Gram positive and negative organisms	—
[illegible]	0·75 gram at each time	Nausea	Gram positive and negative organisms	—
[illegible]	[illegible] gram at each time	Slight nausea	Gram positive and negative organisms	Cysts of *E. histolytica*
[illegible]	[illegible] gram at each time	—	Gram negative	—
[illegible]	[illegible] gram at each time	—	Gram negative	—
[illegible]	[illegible] gram at each time	—	Gram negative	—
[illegible]	[illegible] gram at each time	—	Gram negative	—
[illegible]	[illegible] gram at each time	Three fluid motions	Gram negative	—
[illegible]	[illegible] gram at each time	No complaints	Gram negative	
[illegible]	[illegible] gram at each time	—	Gram negative	—
[illegible]	1 gram 1 gram			

[illegible] was free from [illegible] for three months this [illegible] for ten days in consequence of the [illegible] cysts of amœbæ but a [illegible] fraud.

Case 3.—Naval Officer aged 37.

[illegible] history of abdominal discomfort and [illegible] pain for three months [illegible] intermittent constipated amœba and occasional streaks of [illegible] abdominal tenderness over the lower part of the second ascending colon and [illegible] showed small ulcers high in the sigmoid at the limit of the [illegible] From this area motions contained *E. histolytica* and vegetative forms [illegible] In the stools cysts of *Ascaris lumbricoides* were also found. Haemoglobin [illegible] He had lost [illegible] lb. in weight over the previous month.

[illegible] Aureomycin to that given [illegible] the ascaris was then treated [illegible] in the stools

[illegible] treatment there have been no further [illegible] the [illegible] was found to have returned in [illegible] ninth day [illegible] ova have been found in the stools during the last three [illegible]

Case 4—Asian aged 23

A similar case to the above complicated by [illegible] which [illegible] hæmoglobin to 60 per cent. In this case no amœba [illegible] found and the sigmoidoscopic findings supported the [illegible] stools there being blood-stained mucus in the bowel [illegible] papules based on surrounding hæmorrhages

A similar course to Cases 2 and 3 was given with similar results [illegible] of the hookworm effected by using tetrachlorethylene after the amœbiasis had been cured

Follow up had been only of two months duration but so [illegible] no recurrence of symptoms and no ova have been found on stool examinations

Results

Four patients, two Europeans and two Asians were treated [illegible] patients. In all the cases the disease was relatively mild and no signs of hepatic involvement were found. Although none of these patients was seriously ill [illegible] some of those reported by Armstrong, Wilmot and Elsdon Dew [illegible] these authors criteria of "all ulcers healed, no symptoms and no amœbæ found in stool examination" all four cases can be regarded as successfully treated, subject to a more prolonged follow up

Although daily stools were examined the large amœbæ noted by the [illegible] authors on the third and fourth days of treatment were not found

It is by no means certain that aureomycin will cure all cases of amœbiasis but it appears to be a reliable initial treatment, particularly in service cases where medical officers are almost always available and most Officers and Ratings are eager to report their symptoms early

In severe cases it appears likely that a course of aureomycin of longer duration and smaller individual doses combined with diiodoquin and emetine if there be hepatic involvement offers the best course of treatment so far devised

The paper by Armstrong, Wilmot and Elsdon Dew from the Amœbiasis Research Unit in Durban discusses the treatment of 52 cases of acute ulcerative amœbic dysentery with aureomycin whose their conclusions being that aureomycin effects a better immediate cure than any other drug but that the relapse rate is high

Investigations of the stools during treatment was necessarily somewhat incomplete but there was a definite abolition of the Gram positive organisms from the Fæces which was in all these cases complete by the fourth day. Unfortunately it was not possible to culture cysts obtained before or during treatment to ensure that diagnosis was absolutely certain but in all these cases discussed here the presence of symptoms compatible with the diagnosis accompanied by the finding of cysts or typical amœbæ in the stools or from lesions found at sigmoidoscopy should ensure that the diagnosis is reasonably accurate

Cases of amœbiasis treated by other methods frequently complain of

periodic loose motions for a month or two after treatment. In some cases this is found on investigation to be a relapse but frequently no amoebae are discovered in the stools and the inconvenience passes off gradually over two or three months becoming progressively less frequent as time goes by. It is perhaps significant that none of the cases reported here had noticed this minor complication and save for one case who developed a Sonne dysentery in the third month after treatment none have noticed any abnormal looseness of the bowels.

The most complete assessment of the activity of aureomycin so far published has been recorded from the Amoebiasis Research Unit in Durban. This paper covers a larger number of cases and is therefore statistically more significant than the group recorded here.

The results of using aureomycin are significant in the Service for two reasons: firstly treatment can now be given to the mild case as an out patient while full duty is continued and secondly the severely ill or debilitated case can generally be controlled extremely rapidly with consequent shortening of the length of illness and convalescence.

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A CASE OF PHAGEDENA TREATED AT SEA

BY

Surgeon Commander B. W. WALFORD, R.N.

AND

Surgeon Lieutenant P. D. A. DURHAM, R.N.

A Royal Marine aged 29 years reported at the sick bay whilst the ship was at sea in the Indian Ocean on 24th July 1950.

Recent History.—He had a urethral discharge that had steadily become worse during the past two days and it had been accompanied by an increasing swelling of the penis itself. On the preceding night he had woken to find his hammock wet but he was unable to say whether this was due to discharge or to enuresis.

Previous history showed no confirmed venereal disease.

Sexual History.—The patient is married but his wife and child remained in the United Kingdom while he was away on the South Atlantic Station for twenty-eight months. There were possible exposures to infection on 22nd and 27th June 1950.

On Examination.—24th July 1950. A not very intelligent emotional individual showing signs of toxaemia. Temperature was 104° F. and a pulse of 120. The tongue was heavily coated and the lips were covered with sores.

Genitalia.—The penis was grossly enlarged and oedematous. The foreskin was quite irreducible owing to the gross soft tissue swelling. A foul smell could be detected throughout the sick bay emanating from the organ. No sore was visible but pressure

produced a copious discharge from under the prepuce. Microscopy of the discharge revealed mixed organisms but no gonococci. No abnormality could be detected in the testes nor was there any gross enlargement of the inguinal glands.

Treatment.—The patient was put to bed with full infectious precautions on the assumption that there was a syphilitic lesion present. Two hours later a dorsal slit operation was performed under a general anæsthetic. Quantities of foul smelling pus were released. A considerable area of early gangrene of the superficial tissues of the penis was seen and chamois leather like granulations of the upper surface of the glans were exposed. The frenulum was completely eroded allowing the prepuce to be rolled back in its entire circumference for a distance of an inch. This procedure disclosed further foul smelling ulcers. Dark ground illumination of the exudate of these lesions was negative for *T. pallidum*. Haemostasis was secured with two chromic catgut sutures and the wound dressed with saline packs. The scrotum was supported on an elastoplast splint between the thighs and the patient returned to bed.

On recovery from the anæsthetic the patient was noticed to be restless and shaky. He was given some phenobarbitone but later that evening his temperature rose to 105° F

Photograph showing gangrenous ulceration of the prepuce. The loss of tissue on the right [illegible]

and the pulse rate to 116. He was given [illegible] and toxæmia symptoms persisted. On the supposition [illegible] from the right ischiorectal exudate pus had be addressed [illegible] and [illegible] of clear concentrated urine were with [illegible] [illegible] cells were visible under the microscope. [illegible] dark ground illumination for further specimen of exudate was negative. [illegible] was begun at this stage.

Next morning (25th July 1950) the [illegible] marked and the patient cyanosed with the alæ nasi working. There [illegible] the chest but an definite signs of pneumonia. The urine was still full of [illegible] and the blood pressure was 116/70. The mental condition of the patient was poor and the Sick Berth Staff reported that he had frequently been urinating during the night. The temperature was 104° F. The wound was re dressed and a further D.G.I. examination proved negative.

The ship was still [illegible] he at sea for some days [illegible] prospect of getting a Specialist's opinion of the condition. The condition of the patient was in the meantime deteriorating. A sample of blood was taken for W.R. — [illegible] by the fore method and stored. The patient was then started on a full anti-syphilitic penicillin G. in oil routine. The sulphatrad rectal was stopped after 16 gms. but local heat given. At this stage he also complained of a painful lump on his tongue. The lump had the appearance of a smooth papilloma. Fig. Arsen. Co. rendered it painless and it completely retrogressed in four days.

By the next day his general condition showed a dramatic improvement and his temperature was down to normal. The local penile lesions were beginning to show a demarcation line between healthy and gangrenous tissues and the urinary dribbling was much less.

After this steady improvement was maintained and by 31st July 1950 (six days after his first attendance) the last large slough had separated. There had been considerable loss of tissue and there were now large areas of clean granulations. On 3rd August 1950 penicillin schedule was completed. A small fistula was then noted for the first time on the ventral surface of the penis about ¼ inch from the meatus.

He was seen by the Consulting Venereologist to No. 2 S.A. Military Hospital Wynberg on 10th August 1950 whose report was as follows:

> The history and appearance of the penis strongly suggests an acute Vincent's infection with phimosis. The lesions may have been due to infection with *Treph pallidum* as well. (The original centrifuged specimen of serum gave a negative Kahn and W.R.). If this latter were so then the treatment given could be regarded as adequate and the patient placed under routine surveillance for the next two years.

This patient attended daily thereafter for local treatment but it was not until 12th September 1950 that complete healing of the large raw area was completed. There was still a small area around the fistula which had become excoriated and small penile warts were developing on the contiguous surface of the large flap of prepuce that had remained in the ventral surface since the dorsal slit.

On return to the United Kingdom the patient was seen by the G.U. Specialist at R.N. Hospital Plymouth who later performed a circumcision obtaining an excellent functional and cosmetic result.

Summary

Two similar cases [1 and 2] in the literature are quoted, each of which occurred in circumstances more favourable for pathological diagnosis and treatment. The advent of penicillin has made severe erosive balanitis or phagedena in its full clinical picture a relative rarity. In this case of phagedena occurring while one of H.M. Ships was away from its base on a cruise the patient delayed reporting sick for forty-eight hours. An operation for dorsal slit was performed but the treatment by penicillin was temporarily withheld in the hope of making a positive diagnosis of syphilis. Increasing toxæmia and tender nephritis were dramatically settled with the aid of penicillin. A prolonged convalescence was complicated by the development of a small urethral fistula.

Comment

This case is reported in detail in the hope that it may be of interest to other engaging medical officers who find themselves with a patient in similar circumstances. It does demonstrate the danger of delaying treatment in a case of what was thought to be syphilis with a superadded secondary infection in the hope of getting a positive diagnosis of syphilis.

Surgeon Commander A. Long, R.N., the Senior Urinary Specialist at R.N. Hospital, Plymouth, gave us much helpful advice in the preparation of this article and arranged for the photographs.

The permission of the Medical Director-General of the Navy to publish this case is gratefully acknowledged.

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AN AID TO LOCAL ANÆSTHESIA

BY

Surgeon Commander J. F. MEYNELL, R.N.

Most will agree that a perfect local anæsthetic is satisfactory and even an anæsthetic of choice. This is particularly so when the patient is very ill under potentially explosive conditions or in the surgeon has to be his own anæsthetist. The difficulty in producing perfect local anæsthesia is that of placing the anæsthetic drug in the right place, limiting the quantity of drug used in order not to produce toxic symptoms, and on the other hand using sufficient drug to produce the necessary anæsthesia and duration of action. If large quantities of a powerful drug could be used, the inaccurate operator would have no difficulty in producing a perfect local anæsthetic. Hence local anæsthetic technique would be improved by either an improvement in the accuracy of the operator or a reduction in the toxicity of the drug used. The Pharmacists have been working on the toxicity of local anæsthetic drugs for over fifty years and most possibilities have been explored. It would appear that potency and toxicity go hand in hand, so no help is likely in this direction.

Kirby, Eckenhoffe and Lasby (1949) reported on the use of hyaluronidase in combination with local anæsthesia, and showed that the area of anæsthesia was increased and that with adrenaline there was increased vasoconstriction with an increase in the duration of the anæsthesia so obtained. It would appear that hyaluronidase by increasing the effective field of local anæsthetic would allow the occasional local anæsthetist his moderate inaccuracy and yet produce good results. The expert should be able to benefit his patient by reducing the amount of drug used. It is by the reduction in the amount of anæsthetic drug used that it is hoped to demonstrate the value of hyaluronidase. The procedure chosen is the extensive set operation of first stage thoracoplasty under local anæsthesia.

An injection of local anæsthetic solution into the tissues distends the tissue plane filling the potential space around the parachymatous cells and structures being limited by the fibrous membrane of sheaths, capsules and periosteum, etc., and spreads in paths of least resistance. The pressure is dissipated in overcoming the resistance of the tissue planes to distension.

Further spread can only occur by diffusion or filtration through the various investing membranes including the myelin sheath of nerves. The tissue planes are held together by a viscous solution. This tenacious solution is regarded as hyaluronic acid (Chain and Duthie 1940). Hyaluronic acid a protein free mucopolysaccharide when depolymerized by the enzyme hyaluronidase loses its viscosity which is reduced to that of water so facilitating the spread of fluids in the tissue spaces. The same occurs within muscle bellies and to a minor degree between the fibres of fibrous tissue and limiting membranes.

Bengers Ltd put up the enzyme hyaluronidase as "Hyalase" a white powder 1 000 units in 1 mg an ampoule of which when dissolved in 1 ml of water is sufficient for the hypodermolysis of 500 to 1 000 ml of fluid. In a biological assay of hyalase allergic and toxic effects were not obtained (Gaisford and Evans 1949) nor did it enhance experimental infections (Sonella, 1940).

The standard local anæsthetic for first stage thoracoplasty as used by the writer is as follows:

Solution "A" is made up 200 mg amethocaine i.e. 0.066 per cent
2 ml adrenaline HCl (1/1000) i.e. 1/150 000
300 ml saline

Solution "B" is made by diluting the above to 2/3 strength (in practice by adding saline half as much again as remains after the root blocks)—amethocaine thus becomes 0.044 per cent.

Brachial plexus block		40 ml	Sol	A	200 ml
Thoracic paravertebral root block	1st	40 ml	Sol	A	
	2nd	30 ml	Sol	A	
	3rd	30 ml	Sol	A	
	4th	30 ml	Sol	A	
	5th	20 ml	Sol	A	
Incisional infiltration		90 ml	Sol	B	180 ml
Subscapular infiltration		60 ml	Sol	B	
Weal for towel clips		20 ml	Sol	B	

i.e. 200 ml Sol	A	130 mg	amethocaine
180 ml Sol	B	84 mg	amethocaine
		214 mg	

Two hundred mg of amethocaine were often exceeded although with reluctance. The procedure as above produced satisfactory anæsthesia for two to two and a half hours. Hyalase was now added to Solution "A" 1 amp of 1 000 Benger units and an effort was made to reduce the dosage—whilst maintaining satisfactory anæsthesia.

[illegible]	1	200 mg with hyalase	Excellent anæsthesia duration three and a half hours
[illegible]	2	160 mg with hyalase	Excellent anæsthesia duration three hours
[illegible]	3	92 mg with hyalase	(12 st.) Satisfactory anæsthesia duration two hours.
[illegible]	4	100 mg with hyalase	(11 st.) Excellent anæsthesia (shoulder little tight), duration two and a half hours
[illegible]	5	100 mg with hyalase	(9 st.) Excellent anæsthesia (shoulder little tight) Excessive fibrous tissue duration two and a half hours

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible] The [illegible] by [illegible]
[illegible] 8	91 mg [illegible]	[illegible]	(10 st) [illegible] hour
[illegible] 12	100 mg	with hyalase	(11 st) [illegible]
[illegible] 16	150 mg	with hyalase	(11 st) Superlative [illegible] patient [illegible]

During this series of cases there was a change in surgical technique [illegible] introduction of a one stage type of thoracoplasty nicknamed a "Bandage" in which the periosteum was stripped off the ribs down to the seventh. This required paravertebral blocking of the eighth root i e another 3 roots—which without hyalase would have required a further 60 c.c of Solution "A," i e 40 mg amethocaine (total 240 mg)

Case 9	138 mg	with hyalase	(12 st) Satisfactory anæsthesia (first thoracic root was incomplete) duration three hours
Case 13	116 mg	with hyalase	(9 st) Excellent anæsthesia duration three hours Root block so profound that incisional infiltration was not performed
Case 15	138 mg	with hyalase	(13 st) Excellent anæsthesia duration three hours
Case 17	160 mg	with hyalase	(10 st) Superlative anæsthesia duration four hours

In an effort to evaluate the effect of hyalase on fibrous tissue the following second-stage thoracoplasties were performed Rechter *et al* (1947) concluded that hyaluronidase allowed the diffusion of fluids round but not through the fibrous barrier

Case 10 (previously 7)	101 mg	with hyalase	Excellent anæsthesia
Case 11 (previously 8)	126 mg	with hyalase	Excellent anæsthesia (combined second and third stage thoracoplasty)
Case 14 (previously 7)	87 mg	with hyalase	Excellent anæsthesia Third stage thoracoplasty

The second stage thoracoplasty normally requires just as much anæsthetic as the first stage operation because the scar tissue of the original incision has to be excised and the fibrous tissue infiltrated. The writer occasionally used more drug for the second stage than the first With hyalase the infiltration was still difficult but the amount of drug used was less than expected Third stage thoracoplasty usually required about 75 per cent of that used at first stage Again with hyalase much less was used than expected From this the writer feels that there is at least some hypodermoclysis of fibrous tissue with hyalase

Conclusion

In the small series of cases of classical first stage thoracoplasty operations the average amount of amethocaine in combination with hyalase was 110 mg (omitting first two cases) Variations in the operation technique required comparable amounts of anæsthetic drug Without hyalase any decrease in the amount of amethocaine below 200 mg resulted in inadequate or insufficient duration of anæsthesia

[illegible] the amount of anæsthetic drug used without hyaluronidase, which it may be assumed the usual anæsthetic solution to which is added 1 mg. of hyaluronidase per pint will be effective for at least twice its usual range and will last longer.

Experimentally the hypodermoclysis corresponds to an area between 10 and 100 times that obtained without hyaluronidase and a duration about 50 per cent longer. This allows the occasional local anæsthetist great latitude in placing his agent.

I am indebted to Surgeon Rear Admiral K. A. I. Mackenzie for permission to publish these cases.

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A CASE OF MURINE TYPHUS

BY

Surgeon Commander T. L. CLEAVE, R.N.

A NAVAL officer, aged 32, serving ashore in Malta, was admitted to R.N. Hospital Bighi 4th January 1951 complaining of malaise, pain in the back and pyrexia of twenty-four hours duration. No specific symptoms (e.g. cough, stiffness of neck, frequency, etc.) were present and none developed. Apart from malaria in 1944 the patient's past history was not contributive.

On clinical examination no specific abnormal physical signs were found in any system, the condition being essentially a pyrexia of unknown origin (temperature chart attached). A malarial slide proved negative. The blood showed 13,000 W.B.C., the differential count being 72 per cent polymorphs, 22 per cent lymphocytes and 6 per cent mononuclears. Chest X-ray was normal. Urine was also normal. At no time was the spleen palpable.

A course of three million units of penicillin was given during the first four days, but produced no result. On the sixth day the patient, whose chief complaint was sleeplessness and whose temperature remained steadily up, developed a macular rash. This rash was not at first typical of any fever and the only diagnoses considered at this stage were Malta fever, typhoid and septicæmia. The appropriate blood tests for these conditions were completed and found to be negative. A course of aureomycin was started as a precaution since the patient was now showing considerable exhaustion.

On the next day 11th January the rash was fully developed and showed the typical pleomorphic characters of typhus fever which the writer had met with on several occasions some ten years ago while serving at the R N Hospital Hong Kong Subcutaneous mottling dusky macules and occasional petechiæ were present The diagnosis was now altered to one of typhus (presumably murino) the Weil Felix agglutination test against Proteus X19 gave a negative result The antromycin was continued and the temperature fell rapidly to normal by 14/1 The agglutination test against typhus was repeated 18/1 and this time was strongly positive the patient s serum agglutinating Proteus X19 in a dilution 1/250

The convalescence was uneventful except for a profound exhaustion, the patient in spite of normally being an active man not having any inclination to move out of his bed for nearly a fortnight was sent to his own home on 2nd February for further convalescence which was completed 26th February

This case is submitted as a reminder of the not infrequent occurrence of this fever in the Mediterranean (i e Malta) in case medical officers are ever puzzled by a continued case of fever that develops a pleomorphic rash around the fifth day

My thanks are due to Surgeon Rear Admiral T Madill *O B E* K H P, for permission to publish this case

A CASE OF DISPOSAL

BY

Surgeon Commander S. JENKINSON, R.N.

[illegible] —A. B. a Sergeant Royal Marine

[illegible] on board in November 1950 as an instructor to Royal Marine [illegible] reported to the Sick Bay that he was unfit for draft as a Commando [illegible] he was loss of the left middle finger

He [illegible] in North Africa in 1943 when while on patrol [illegible] sustaining an abrasion of his [illegible] [illegible] due to the vicissitudes of wet and mining [illegible] of the [illegible] contracted. The sequel of this [illegible] amputation [illegible] left middle finger

Since 1945 at [illegible] examination [illegible] assessment [illegible] Isolonin and an application [illegible] Medical [illegible] Royal Naval Hospital for a further decision

This [illegible] 12 until for Commando in January 1951. [illegible] that the [illegible] that dual [illegible] the medical [illegible] the [illegible] the [illegible] understanding, [illegible] that the [illegible] Royal Marine Barracks [illegible] Medical [illegible] the Royal Marine [illegible] physical [illegible] assessment [illegible] example in discussion of the [illegible] Medical [illegible]

Correspondence

ON DISEASES OF THE SKIN

DEAR SIR

My undergraduate experience of skin diseases can be described briefly. At the first clinic I attended there appeared four cases of Eczema. These received four different treatments for no reason that it is made known to the students. Thinking that this must surely be a bad day, I attended on the next occasion with exactly the same result except that six cases were seen. Naturally I did not attend again and was fortunate not to meet any skin cases in Finals. Such a sorry tale could no doubt be told by a great many others, certainly by quite a few Naval Medical Officers if my acquaintance!

Some of us have been fortunate enough to rectify this regrettable state of affairs with postgraduate instruction but for the others to whom it is chiefly directed Surgeon Lieutenant Polhill's Child's Guide to Skin Diseases should be of much assistance. He is clearly a fellow disciple of Dr. A. C. Roxburgh, the soundness of whose teaching he has apparently tested for himself.

A brief article must necessarily leave out many things of importance but it is most regrettable that there should be no mention of dermatitis medicamentosa as the recognition of the existence of this condition is a prerequisite of the successful treatment of diseases of the skin. In recent years many new and powerful weapons have been added to the general therapeutic armoury and in no field are abuses more likely and in fact more often seen than in Dermatology. With internal medicines even the most slapdash physician will display some caution with drugs with which he is not familiar for incorrect use may lead to overt poisoning but it is presumably felt that there is little risk of fatal absorption through the skin so that anything and everything is applied indiscriminately. Penicillin possibly justified though usually of little lasting effect in severe furunculosis is squandered on the smallest of boils. I have seen an external otitis syringed out with a solution of 100 000 units per c.c. burns or wounds are dressed for an indefinite time with sulphanilamide powder or alluvial ointment streptomycin and other antibiotics will no doubt be similarly abused when they are in more plentiful supply. Benzyl benzoate can produce a dermatitis which is far more severe than the scabies for which it was prescribed is one unfortunate sailor discovered having contracted scabies on the first day of his leave he consulted a local practitioner and spent the last eight days applying benzyl benzoate three times a day to all the visible lesions! He was fortunate in that the resultant dermatitis though severe responded readily to cessation of the irritant and the application of zinc cream. It is not only the much maligned remedies which are to blame for long sulphonamide bathing and iodine still claim their victims.

It is impossible to give an exhaustive list of the things which may cause a dermatitis medicamentosa as it would probably include everything which has ever been applied to the skin. I have seen cases where zinc cream and calamine lotion have caused irritation the important thing is to realize that ANY application MAY cause a sensitization reaction and this awareness will lead to a ready recognition of the true state of affairs.

The golden rule for all skins is When in doubt use nothing stronger than plain zinc cream or calamine lotion. You may do some good and except in very rare cases will certainly do no harm.

Perhaps one other golden rule should be observed. Be patient and persevere. It has been my common experience in seeing cases treated by other medical officers to find that a bewildering succession of treatments have been used in rapid and haphazard sequence without giving any of them sufficient time to have any reasonable effect e.g. a case of mild varicose dermatitis had had four different applications in the course of a fortnight each time the patient had irritated he had gloomily reported no improvement and the doctor had used a pin to peel out some new application. When however one of these same applications was persevered with for the next two weeks the condition cleared completely.

It is always worth while in cases which are not responding as rapidly as expected to make detailed enquiries to ensure that the treatment is being carried out in the manner intended and as often as was prescribed. It is quite

remarkable how brazenly a patient will claim that there has been no improvement from the treatment when enquiry will show that the treatment which was prescribed for three times a day has in fact only been used once or twice during the week In this connexion also the possibility of a dermatitis artefacta should always be borne in mind

One small point of detail dithranol which is advocated by Surgeon Lieutenant Pellitt for the treatment of psoriasis is certainly an effective treatment but anyone using it for the first time should be warned that it is also a potentially dangerous one and may lead to a generalized spread of the disease or even to a fatal exfoliative dermatitis it also stains bed linen indelibly Dr Roxburgh's rule therefore was only to use dithranol for in patient treatment Any untoward reaction could then be noticed at once and the household linen saved from ruin

H R MALLOWS
Surgeon Lieutenant R N

H M DOCKYARD
HONG KONG
23rd April 1951

Lectures

LECTURES AT R N MEDICAL SCHOOL, ALVERSTOKE

THE following lectures were recently given at the Royal Naval Medical School and were open to officers of all branches

1st March 1951	Some physiological problems of present day aviation—Surgeon Lieutenant Commander S G F Linton R N
15th March 1951	Court Martial Procedure Medical Evidence and some aspects of medical jurisprudence—Captain (S) J Parrott *O B E* R N D J A of Fleet
29th March 1951	Some physiological problems in submarines—Surgeon Commander W M Davidson *O B E* R N
12th April 1951	Underwater Blast—Dr H C Wright *O B E* B Sc D Ph R N S S
3rd May 1951	Some physiological problems in submarine escape—Dr H J Taylor B Sc D Ph R N S S
31st May 1951	Some physiological problems in Diving Operations—Surgeon Lieutenant Commander W E Crocker R N
14th June 1951	Some problems of artificial respiration—Dr S L Cowan D Sc R N S S

Reviews

BAILLIÈRE'S NURSES MEDICAL DICTIONARY By M Hitch S R N Twelfth Edition 1950 Pp xii + 496 281 illustrations London Baillière Tindall & Cox Price 5s 0d

This improved edition contains many additional medical terms and an appendix on antibiotic drugs With its improved quality of paper and printing this small and

[illegible] will prove a great assistance to the nurse [illegible] up to date in the medical modern terminology.

It is [illegible] the best Nursing Dictionary published to date and is strongly recommended to all nurses.

BRONCHIAL ASTHMA (Its Relation to Upper Respiratory Tract Infection). By R. White [illegible] M.B., Ch.M. Syd., F.R.A.C.S., Hon. Consulting Surgeon for E.N.T. Diseases, Lingham Hospital, Sydney. First Edition. 1951. Pp. xii + 184. London: H. K. Lewis & Co. Ltd. Price 18s. 6d.

This book on asthma is peculiar in that it is written by a surgeon and thus the subject is approached from a somewhat different angle from that of most works on the topic. The author found that when dealing with patients with chronic nasal infections concomitant asthma when it existed was also relieved and thus in 1937 an asthma clinic was set up to determine the best line of treatment to be adopted in these cases.

The conclusion was reached that upper respiratory tract infection was the main factor in almost all cases of asthma and the most important cause of this was the neglected cold. The method of dealing with this is elaborate and is explained in detail in the book briefly the patient is admitted to hospital for a fortnight and given fluid inhalations and shortly after admission large intranasal openings are made into the maxillary sinuses the idea being that these should be permanent. The antra are washed out as necessary and great stress is laid on the use of inhalations and the patient is encouraged on returning to bed and inhaling, as soon as a cold threatens and staying there until it has cleared up is emphasized.

Paroxysmal sneezing and allergic rhinitis are broadly speaking treated on the same lines and a special Chapter is devoted to asthma in children. It is quite impossible to review this novel book without having seen the work of the author but his planned campaign is explained in detail and his results make impressive reading.

This book should be closely studied by anyone who has to do with the long term treatment of asthmatics. It has, however, a limited appeal to Service medicine where the time which must be devoted to these subjects could be ill-afforded in the Services.

HANDBOOK OF DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES. By A. E. W. McLachlan, M.B., Ch.B.(Ed.), D.T.M., F.R.S.(Ed.). Consultant in Venereal Diseases, Bristol Clinical Area; Lecturer in Venereal Diseases, University of Bristol. Fourth Edition. 1951. 160 illustrations, 20 of which are in colour. Price 17s. 6d.

This fourth edition has been thoroughly brought up to date especially with regard to the treatment of venereal diseases by penicillin and the more recently introduced antibiotics streptomycin, aureomycin and chloramphenicol.

The publication is modestly labelled a Handbook but it contains more information than many books not so designated. The subject matter is practical and concise and as the illustrations and coloured plates are precise the whole pattern of diagnosis and modern treatment in a general sense is made very clear to the reader.

No dogmatic views are expressed by the author concerning the treatment of syphilis but several salines in detailed will with the most recent drugs will be in full accord. The need for a hospital surveillance is wisely stressed.

The chapters on cardiovascular syphilis, neurosyphilis and manifestations in other viscera are of necessity condensed to keep the book to its present convenient size but all salient points are given in clear expression.

This Edition covers the whole field adequately and it should prove a useful volume to anyone wishing to bring themselves up to date in this subject. Production is of the high order expected from E. & S. Livingstone.

[illegible] SCIENTIFIC AND TECHNICAL LENDING LIBRARY [illegible] revised [illegible] 1949 Pp [illegible] 1152 London H K Lewis & Co Ltd Price (to subscribers 17s 6d)

[illegible] has been brought up to date (31st December 1949) and Parts I and II [illegible] single volume of practical size An alphabetical list of subjects has [illegible]

As [illegible] specific library the volume is of immense use to [illegible] engaged in research The letterpress is easy to read and the system [illegible] and easily handled

[illegible] with interest that a suggestion has been brought forward that the [illegible] classification has been considered

MODERN SURGERY FOR NURSES By L Wilson Harlow M B B S Durham F R C S Eng Second Edition 1951 London William Heinemann Medical Books Ltd Price 25s

Since the first publication of this work two years ago it has undergone a thorough review and a great deal of new material and many new illustrations have been added The chapter on Nursing Care has been entirely rewritten and a new chapter on sulphonamides and antibiotics has been added From the newest of the antibiotics is mentioned and in similar manner the use of para aminosalicylic acid together with streptomycin is adequately dealt with

An excellent feature of the book is the use of smaller type to record matter which is primarily of interest to Sister Tutors

In general it can be said that most doctors would benefit from the careful perusal of this book and there can hardly be a better one of its kind intended for Nurses

MODERN TREATMENT YEAR BOOK 1951 Edited by Sir Cecil Wakeley 17th year of issue Pp xiii 398 with 21 plates London Medical Press Price 17s 6d

One does not envy the lot of writers of medical textbooks or contributors to an annual or yearbook The delay in book publishing and the amazingly rapid advances in therapy inevitably make any mention of treatment seem slightly out of date when it reaches the reader

This well known Yearbook now making the seventeenth appearance is always eagerly awaited by a large circle of practitioners They will not be disappointed provided they realize that though it is the 1951 edition The articles were written in 1950

The thirty nine articles cover a wide range of subjects of the greatest interest and importance to general practitioners and one congratulates the Editor in the choice of his contributors all recognized experts in their subject and geographically covering a wide area of English hospital practice both teaching and non teaching

PATHOLOGY OF THE EYE By Eugene Wolff M B B S F R C S Third Edition 1951 Pp 364 with 318 illustrations London H K Lewis & Co Ltd Price £2 18s 0d

When the first edition of Eugene Wolff's Pathology of the Eye appeared in 1934 it contained 124 illustrations the second edition in 1944 contained 212 whilst the present third edition contains no fewer than 318 These illustrations comprising photographs photomicrographs diagrams and coloured plates are really magnificent and deserve the highest tribute The histological details are extraordinarily clear and the whole form a most impressive visual background to the text which is presented in a clear and concise manner

The bibliography is very full and contains several hundred references The book is extremely well produced and reflects much credit on the publisher as well as the distinguished author and one can have no hesitation in recommending this most excellent study of ocular pathology

A [illegible] Rebuilt Man. By Dr. Fred Albee, M.B., F.A.C.S., F.R.C.S. (Eng.). Publisher: 1950. Pp. 270 with 11 illustrations. London: Robert Hale Ltd. Price 15s. 0d.

This autobiography, by one of the best known orthopædic surgeons in the world, begins with an account of his early life as a boy on a farm in Maine. Here he was much impressed by the tree grafting operations of his grandfather: the principles of which he put into practice when he became an orthopædic surgeon. After experimental bone grafting operations on dogs he used tibial grafts for fusion of the spine in cases of Pott's Disease, and in 1911 his account of this work was first published. He later produced his well known rotary electric saw for taking grafts, which he called the Albee hoe: still better known in this country as the Albee saw.

With the advent of the First World War he spent much time in Europe visiting allied Military Hospitals. He became interested in all aspects of rehabilitation of the injured and organized the U.S. General Hospital No. 3 at Colonia in 1918, as an Orthopædic and Rehabilitation Centre. In the post war years he travelled extensively and was decorated for service different countries in Europe and South America.

This book gives an interesting account of his life's work. The appendix to the book illustrates in picture the many routine operations he performed, with diagrams of tree grafting, as well as bone grafting. The book is written for the layman in non technical language, but should be of interest to medical men, particularly those who attempt orthopædic surgery.

Chiropody Instruments: Their Use and Maintenance. By C. T. Humphries, Ch.S., Val. III in the Actinic Series. Pp. 60 with 34 illustrations. London: Actinic Press. Price 3s. 6d.

Included in this small volume is a wealth of useful information and technical detail that will prove immensely useful to those practising the art of chiropody, and to those to whom precision and perfection take precedence. Chiropodists throughout the country will derive much benefit from its pages.

The author should be congratulated upon the way he has dealt so efficiently with a difficult technique. Here at last is a descriptive method that can be easily interpreted and followed by all members of the profession.

Crossword Puzzles in the Dietetic Office. By Henry Trill, F.Ch.S., Val. II in the Actinic Series. Pp. 60 with 7 diagrams. London: Actinic Press. Price 3s. 6d.

It is hardly credible that after an initial glance through the volume that the author has spared no effort in research into the subject which until now has been dealt with only lightly in other textbooks.

This small but in no the less valuable reference book will be greatly appreciated by all conscientious chiropodists aiming to relieve the suffering public. The author's profound knowledge of this troublesome condition has been highly successful.

Journal of Mental Science. Volume II. By C. W. H. Fleming, M.R.C.S., L.R.C.P., D.P.M., Physician Superintendent, Barewood House, Gloucester, in collaboration with Alexander Walk and P. K. McCort, and with the assistance of thirteen well known workers in the field of Psychiatry. 1951. Pp. 713. London: J. & A. Churchill. Price 50s. 0d.

The first volume of Recent Progress in Psychiatry was published in 1945. The second volume now under review has just been published and the third is due to be in 1955.

In this second volume there are twenty four chapters each dealing with a different aspect of Psychiatry. Each chapter is the work of a different author highly qualified for the task undertaken. A great amount of work has gone into the production of this volume.

[illegible] psychiatry [illegible] World War II [illegible] knowledge of the various subjects up to the present time. The following subjects are dealt with: Psychiatric Genetics, Biochemistry of the Nervous System, Electroencephalography, Cybernetics, Vitamin Deficiency in Nervous and Mental Disorder, Physiological Psychology, Neuro-endocrine Relationship and Endocrinology in Clinical Psychiatry, Intelligence Testing, Personality Tests 1944-1949, Psychopathology, Neuropathology in Relationship to Mental Disease, The Neuropathology of Oligophrenia, Schizophrenia, Problems of Old Age and the Senile and Arteriosclerotic Psychoses, Neurological Psychiatry, Neurosyphilis and its Treatment, Epilepsy, Mental Deficiency, Delinquency and Crime, Sleep and its Disturbances, Psychotherapy, The Neurosurgical Treatment of Mental Illness and Suicide.

Some chapters have been omitted and will be included in the third edition due in 1955. They are chapters on Child Psychiatry, Psychopathic Personality, Manic Depressive Insanity, Convulsion Therapy and Anatomy.

The work generally is of a very high order. It is most informative. The references so essential in articles of this kind are very numerous. One could not help being struck by the chapter on Personality Tests 1944-1949 which occupies forty pages with just under sixteen full pages of references. There is a very good index. The print is that familiar in the quarterly publication *The Journal of Mental Science*. It is very pleasing to read. The binding is not up to the high standard of the remainder of the book but it is serviceable. The difficulties of book production at the present time are very great and the mention of this defect must not be allowed to detract from the good reception the book deserves. It will be read by all psychiatrists and should be read by all practising doctors who are interested in this subject.

ROYAL NORTHERN OPERATIVE SURGERY. SECOND EDITION. By the Surgical Staff of the Royal Northern Hospital, London. Edited by Sir Lancelot Barrington-Ward, K.C.V.O., M.B., F.R.C.S. Pp. [illegible] and 638. 498 Illustrations (some coloured). London: H. K. Lewis & Co. Ltd. Price 90s. net.

The first edition of this Operative Surgery was published in 1939 and it has soon assumed a prominent place in every library of reference as a standard textbook of operative surgery.

The second edition is welcome indeed, coming after an interval of fourteen years during which time the major advances and changing ideas of the war and post-war years [illegible] and have been assimilated into the accepted teachings of surgery.

This edition is intended to embrace these changes so that several chapters have been re-written and all have been revised. To quote the Editor in the preface, "The book represents the practice and teaching of men who have a wide experience of different branches of surgery working in close harmony in one Hospital Group." It is primarily for the general surgeon and in each section of the book as a rule [illegible] detail of performing any given operation has been presented.

The chapter on the head has been re-written and incorporated in a new section on Neuro-Surgery which includes a good account of the surgery of the sympathetic nervous system and operations on the peripheral nerves.

The section on hare lip and cleft palate has been omitted apart from a brief discussion in the chapter on operative plastic surgery which otherwise is a very comprehensive and practical chapter of some fifty pages.

The surgery of the neck has been altered to include modern pre-operative measures and some useful paragraphs on the use of thiouracil preparations have been added.

There is a new section on thoracoplasty and lobectomy and in the Abdominal Sphere there is an excellent description of the Antecolic Polya operation with the Hofmeister Valve and a short account of Vagotomy. Recent advances in the surgery of carcinoma of the head of the pancreas are included and the Operation for duodeno-pancreatectomy described.

The operations on the small intestines and colon make delightful reading and all are well illustrated. The section on hernia, brief and inadequate in the first edition, is now more comprehensive and Malkin's retropubic operation for prostatectomy is given in addition to the Terrell and the Harris operations.

The chapter on the breast is too brief and no mention is made of the usually useful radiotherapeutic measures, though perhaps this is outside the scope of this book.

Anticoagulants and the thesis latter are now considered in the surgery of the blood vessels and blood transfusion.

The sections on the surgery of the limbs, lower and amputations are good and contain a lot of valuable material for the orthopædic as well as the general surgeon.

Commendation must be given for the concise and attractive way in which the text is presented and for the abundance of excellent illustrations.

We acknowledge with thanks receipt of the following publications:

Anales de la Facultad de Medicina Montevideo. *Annals Medical Services Magazine*. *Indian Journal of Experimental Biology and Medical Science*. *British Journal of Surgery*. *British Medical Bulletin*. *British Medical Journal*. *Broadway*. *Bulletin International des Services de Sante des Armées de Terre, de Mer et de l'Air*. *Bulletin of the World Health Organisation*. *Chinese Medical Journal*. *Chronicle of the World Health Organisation*. *Clinical Journal*. *Guy's Hospital Gazette*. *Journal of the Royal Naval Medical Service*. *Medical Journal of Australia*. *Medical School of Medicine*. *Journal of the Irish Medical Association*. *Journal of the Royal Army Medical Corps*. *Journal of the Royal Naval Service*. *Medical Journal of India*. *Medical Press*. *Middlesex Hospital Journal*. *Military Surgeon*. *Proceedings of the Staff Meetings of the Mayo Clinic*. *St. Mary's Hospital Gazette*. *St. Thomas's Hospital Gazette*. *Tohoku Journal of Experimental Medicine*. *Tropical Diseases Bulletin*. *University of Durham Medical Gazette*. *United States Armed Forces Medical Journal*. *United States Medical Technicians Bulletin*. *West London Medical Journal*. *World Health Organisation Technical Report Series*.

News of the Service

OBITUARY

We regret the following deaths and extend our sympathy to the relatives.

Surgeon Vice Admiral Sir BASIL HALL ACKLAND, who died at Hurstpierpoint, Sussex, on the 16th May, 1951, served in the Royal Navy for thirty years and was Medical Director General of the Navy and Honorary Physician to the King, 1934–1937.

He was born in Scotland in 1870 and educated at Portsmouth Grammar School and Guy's Hospital. He qualified M.R.C.S., L.R.C.P. in 1900 and entered the Royal Navy as a Surgeon in that year. He was promoted Staff Surgeon in 1908, Surgeon Commander in 1918, Surgeon Captain in 1925, Surgeon Rear Admiral in 1929 and Surgeon Vice Admiral in 1934.

[illegible] serving in H.M.S. *Iphis* he received the thanks of the [illegible] Office [illegible] rendered at St. Kilda where the bulk of the population [illegible] suffering [illegible] in a deplorable condition.

[illegible] World War he served in H.M.S. *Lowestoft* which [illegible] in the [illegible] and other operations in the North Sea. In 1917 he was appointed [illegible] Officer of the Salvage Service. He took considerable [illegible] in the [illegible] problems arising in underwater craft and his [illegible] Medical [illegible] Service was published in 1920 and became a standard book [illegible]

[illegible] 1928 he served as an Assistant to the Medical Director General and [illegible] as Deputy Medical Director General. In 1930 he was appointed as [illegible] in Charge of Royal Naval Hospital, Plymouth. During the three years [illegible] this post he was responsible for many valuable improvements in hospital [illegible]. In 1934 he became Medical Director General of the Navy.

[illegible] made an *O.B.E.* in 1924, *C.B.* in 1931 and *K.C.B.* in 1936. In 1922 he was [illegible] Gilbert Blane Medal by special adjudication for conspicuous zeal and [illegible] ability displayed throughout his Service career. In 1920 he was made an [illegible] Order of the Redeemer (Greece) and in 1937 a Commander of the Venerable [illegible] of Jerusalem.

[illegible] Second World War he acted as Chairman of the National Service Medical [illegible]

[illegible] of the death of Surgeon Vice Admiral Sir Basil Hall came as [illegible] shock to his numerous friends and former colleagues. Although [illegible] for some years it was all said over the end that his [illegible] rapidly. He died three weeks after his admission to [illegible] Hospital.

[illegible] the highest and most exacting appointment in the Health [illegible] Service was a fitting climax to his already brilliant Service career and [illegible] added lustre to the Office of Medical Director General [illegible] his energy and devotion to duty of service that on his retirement in [illegible] Journal of Director of the Medical Services of the International [illegible] in Spain; this was followed two years later by his [illegible] the National Service Medical Board at Guildford where he [illegible] the [illegible] years until 1944.

In all [illegible] he gained distinction on the Council and Executive Committee [illegible] a regular attender at their meetings. Furthermore he took a [illegible] in local affairs at Haslemere and until his death was Chairman of the [illegible] Committee of the Haslemere and District Hospital which he visited almost daily [illegible] wide knowledge and great experience of hospital management were of [illegible] value. He will be long remembered for his general cheerfulness, charm of [illegible] and shrewdness as much as he will for his many professional achievements and [illegible] organising and administrative abilities which he displayed to so much [illegible] his wide and varied activities. Truly it may be said of him that his life was [illegible] to the community.

[illegible] personal useful life did not leave much time for leisure, but one of his [illegible] pleasurable relaxations was the planning, care and development of the [illegible] which surrounded his house at Haslemere where he lived for about twenty [illegible] he and Lady Hall were delighted to entertain their friends and to [illegible] in all of the many good causes in which they were actually [illegible]

[illegible] Gertrude Grace, daughter of Engineer Captain H. C. Goldsmith, R.N. [illegible] 1948 and in 1890 he married Dorothy, daughter of the Rev. Hensley [illegible] Rear Admiral (S) Cyril Capner who served with Sir Basil at the Royal [illegible] Dinnerth. To the twice bereaved Lady Hall our sympathy is fully [illegible]

[illegible] 18th May [illegible] cation of his [illegible] requests [illegible] Hospital Service [illegible] which St [illegible] the service [illegible] Shelburne [illegible] the Rev C W [illegible] who had [illegible] Medical [illegible] taken [illegible]

He [illegible] Hill Colonel and Mrs [illegible] lay [illegible] Mr R Burdekin [illegible] Mr M [illegible]

Representatives [illegible] the Royal [illegible] Sir Basil [illegible] Admiral Sir [illegible] Medical [illegible] General [illegible] Sir Bertram Thesiger [illegible] Sir Reginald [illegible] Admiral J McCrea [illegible] and Mrs [illegible] Hamilton (Medical [illegible] Lieutenant Commander C W [illegible] Mrs G B Martin [illegible] Naval Hospital [illegible] The Guildford Group [illegible] Sister [illegible] Nurses of the [illegible] Hospital St John Ambulance [illegible] Hospital Nursing [illegible] Cadets and the [illegible] were also attended

Surgeon Rear Admiral JOHN CARTER RUSCH DUDDING [illegible] M R C S L R C P who died at Winchester [illegible] served in the Royal Navy for thirty five years and was appointed to H [illegible] Hospital The Kizzie 1935

He was born at Gartnarget in 1867 and trained at the London Hospital He qualified M R C S L R C P in 1900 and entered the Royal Navy as a Surgeon in the same year He was promoted to Staff Surgeon in 1908 to Surgeon Commander in 1916 to Surgeon Captain in 1926 and to Surgeon Rear Admiral in 1932

While serving in H M S *Lancaster* he rendered good service at the Messina earthquake in 1909 and received from the Italian Government the Order of Merit of St Maurice and St Lazzaro Messina Decoration In 1928 and 1930 he was the Director of Medical Studies at the R N Medical School and in 1933 was appointed as Medical Officer in Charge R N Hospital Plymouth He served in that post for three years and was then placed on the Retired List at his own request in order to facilitate the promotion of junior officers

Surgeon Rear Admiral Dudding was made an *O B E* in 1918 and a *C B* in 1935

Surgeon Captain H H ORMSBY M B B A R N (Ret) was born on 21st September 1883 He was educated at Felstead and Trinity College Dublin where he qualified in 1909

He entered the Royal Navy as a Surgeon in 1910 and was promoted to Staff Surgeon in 1916 He was a very kind and considerate medical officer

During the World War I he served in H M S *Andes* in the famous 10th Cruiser Squadron and took part in the action which resulted in the sinking of the German raider *Greif* in February 1916 The remainder of his war service was spent in six in the light cruisers *Cerys* and *Coventry*

In 1929 he was promoted to Surgeon Commander and served in various parts of the world until 1931 when he was placed on the retired list (subsidiary) with the rank of Surgeon Captain

Surgeon Captain Ormsby was not fit enough to be recalled to active service during World War II but he undertook voluntary work in Sussex during this period

For some years he had been in a very poor state of health and died from a coronary thrombosis on 8th May 1951

Surgeon [illegible] KEAN *O.B.E.* R.N. (Rtd.) died on 23rd May [illegible]. He was born on 3rd April [illegible] and qualified in 1924 joining the R.N. Medical Service as Surgeon Lieutenant on 8th August 1925. He was promoted Surgeon Lieutenant Commander on 8th August 1936 and to Surgeon Commander 5th August 1937. He was placed on the Retired List [illegible] on 4th February 1950. During the Second World War he served in H.M.H.S. *Minister of R.N. Auxiliary Hospital Seaforth* and R.N. Sick Quarters Shetland. He was awarded the *O.B.E.* in the New Year's Honours List 1945.

The death of [illegible] has robbed us of another of the Medical Officers who played a distinguished part in [illegible] as on shore during the last war.

With his skill [illegible] and hard work he did much to advance his specialty in the Royal Navy. He was a [illegible] operator and it was a pleasure to watch his fine sensitive hands.

Much of the time I worked with him was at wartime pressure. His shallow reserves were often in debt to his frail physique. But he was robust of mind—robust enough to fight the battles of his intelligence of what he did not approve. All he thought and said was frankly given aloud in a rapid breathless stringent with his unadulterated Southern Irish accent. His sense of humour was due to his genuine character. If as an instrument it sometimes offended there always followed the half-shy, half-rueful smile.

If fresh air was needed [illegible] was a breeze, an unforgettable one.

PROMOTIONS

Promoted to Acting Interim Surgeon Commander

Surgeon Lieutenant Commanders L. D. Ardin, D. J. D. Donoghue, R. S. P. Hawkins.

Promoted to Surgeon Lieutenant Commander

Acting Interim Surgeon Lieutenant Commander C. H. G. Gibson, R. S. McDonald.

Promoted to Surgeon Lieutenant Commander (D)

Acting Interim Surgeon Lieutenant Commander (D) H. C. Martin.

Promoted to Acting Interim Surgeon Lieutenant Commander

Surgeon Lieutenant W. H. B. Ellis (Acting Surgeon Lieutenant-Commander), Surgeon Lieutenant W. Collier, B. Deighegan, J. H. Irving, I. G. Martin.

TRANSFERS TO PERMANENT LIST

Surgeon Lieutenant Commander W. A. Barnett, Acting Interim Surgeon Lieutenant Commander W. B. Jack, M.B.E., Acting Interim Surgeon Lieutenant Commander A. P. M. [illegible], Surgeon Lieutenant W. Collier, Surgeon Lieutenant I. C. S. Pearson, Surgeon Lieutenant H. H. Warburton.

Temporary Surgeon Lieutenant J. S. P. Rawlins, R.N.V.R.

ENTERED FOR SHORT SERVICE COMMISSIONS

[illegible] D. Bennett, M.R.C.S., L.R.C.P., I. M. M. Conway, L.R.C.P., L.R.C.S., G. M. [illegible], B.D.S., J. W. Huddy, M.B., B.Ch., K. R. Needham, L.D.S., P. R. Oliver, M.B., B.Ch., B.A.O., W. L. Simpson, M.B., Ch.B.

RETIREMENTS

[illegible] Captain C. N. Ratcliffe, R.H.L.

WARDMASTER OFFICERS

PROMOTIONS

Promoted to Acting Commissioned Wardmaster

S B C.P O s C H Bastable J B Gill L W Rickard

ADMIRALTY FLEET ORDERS

693 —Pay and Allowances Regulations of the Royal Navy—Medical and Dental Officers Specialist Pay—Amendment

869 —Hurt Certificates—Issue to Members of Q A.R N N S and the V A D

870 —Invalided—Procedure—Naval and W R N S Ratings R M Other Ranks and V A D s

878.—Ratings—Dental Treatment on Leave—Pay Books (S 43A)

948 —Establishments—R N Medical School and R N Physiological Laboratory Alverstoke

961.—Dental—Half-Yearly Dental Reports

967 —Officers—Medical and Dental Officers—Transfer to the Permanent List

1020 —Courses in Air Medical Procedure for Sick Berth Ratings

1033.—Reserves—R N V R Principle System of Medical Classification

1060.—Victualling Stores for Medical and Dental Services (formerly Medical and Dental Stores)

1197 —Medical—Reception and Disposal Facilities for invalids Transferred by Air to the United Kingdom

1200.—Pay—Home Hospitals—Pay Advances to Service Patients

1212 —Medical—Venereal Disease—Kahn and Wassermann Test Results

1213.—Transport—Naval Air Passenger and Ambulance Services in the United Kingdom

1309 —Establishments—R N Air Medical School, Functions

1318 —Courses—R N Air Medical School—Courses of instruction

1324 —Eyesight—Spectacles—Supply Repair and Replacement to R N R M and W R N S Personnel Home and Abroad Admiralty Civilians Abroad Wives and Families of Naval and Admiralty Civilian Personnel Abroad—Arrangements

1350 —Medical—History Sheets of Naval Ratings—Master

1331 —Medical—N.A A F I Canteen Staff—Medical Examination and Treatment

1332 —Medical—Vaccination and Inoculation

1437 —Leave—Sick Leave

1438 —Medical Organization for Action

1499 —Victualling Stores for Dental Services (Formerly Dental Stores)

1544 —Medical—R.A F Medical Rehabilitation Units—Admission of R M and R.M Personnel

1547 —Passages—Classification of Invalids for Embarkations

1618 —Admiralty—The Royal Naval Personnel Research Committee—Purposes and Organization

1626 —Medical Examination of Shallow Water Divers

1627 —Medical—Personnel of the Naval Reserve Forces—Provision of Mark 3 Spectacles

1630 —Officers—Dental Officers—Shortage

1631 —Officers—Medical Officers Serving in Aircraft Carriers and at Naval Air Stations —Flying Experience

1655 —Victualling Stores for Dental Services (Formerly Dental Stores)

1681 —Dental Officers and Dental Surgeons in Cruisers

1685 —Invalided—Long Term Treatment Scheme—Revised Invalided Procedure

1686.—Medical Research—Co ordination—Reports

ROYAL NAVY MEDICAL CLUB

Balance Sheet and Audit at 31st March, 1951

[illegible]	£	s	d		£	s	d
[illegible]	4196	8	0	J. Lyons—Cocktail Party	13	[illegible]	[illegible]
[illegible]	81	8	10	J. Lyons—Gratuities to Staff	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	1	9	Secretarial Expenses			
				Advertisements	24	1	[illegible]
			218	0	7	Typist's Fees	3	2	[illegible]
[illegible]			62	14	0	Stationery and			
[illegible]	[illegible]		24	6	4	Postage etc.	2	18	11
[illegible]	[illegible]		4	2	0				[illegible]
			309	2	11	Repayment to [illegible]			[illegible]
[illegible]	[illegible]		[illegible]	4	9	[illegible]			1
						Balance at Bank			[illegible]
						Balance at Strong Room			38
			308	19	[illegible]				308

[illegible]

[illegible]

Notice

[illegible] of officers in civil [illegible] &c. Items of news [illegible] from ships and [illegible] marriages and deaths are [illegible]

[illegible] is published [illegible] the property of the [illegible] Medical Service [illegible] the editorship, the [illegible] [illegible]

[illegible] (1935) [illegible] 22 [illegible] [illegible] (1935) [illegible] &c.

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Articles

THE DIET AND HEALTH OF SEAMEN IN THE WEST INDIES AT THE END OF THE EIGHTEENTH CENTURY —SOME REMARKS ON THE WORK OF LEONARD GILLESPIE, M.D.

BY

Commander (S) T. P. GILLESPIE, *M.B.E.*, R.N.

ON 13th January, 1842, Leonard Gillespie, M.D., died in Paris. His long time private physician to Lord Nelson was then in his 84th year, and had served many years service in the Royal Navy. The name of Leonard Gillespie is known to naval historians chiefly from extracts from his letters to his sister describing life onboard the *Victory* in the year of Trafalgar. It is not generally known, however, that he was a man with strong and original views on diet and the measures necessary for the preservation of the health of seamen, particularly those serving in hot climates such as the West Indies. He was a worthy follower in the steps of Sir Gilbert Blane (1749–1834).

The remarks that follow have been abstracted from Gillespie's Advice to the Commanders and Officers of His Majesty's Fleet serving in the West Indies on the preservation of the Health of Seamen, published in 1798, presenting the fruits of his experience between the years 1794 and 1796.

In his introduction Gillespie listed the most frequent causes of sickness in ships in the following words:

Unhealthy diet; unhealthy air of roads and harbours; sickly seasons; infection; bad air of ships from too many persons crowded together onboard; exposure to the sun; to the rains; and to the dews of the night; irregularities on shore or onboard; excessive fatigue; or almost total want of employment; uncleanness with regard to clothing, bedding or men's persons; and depression of mind.

Chapter I on the diet of seamen is perhaps the longest. It points out that it is only common sense to adjust one's diet according to the climate if health is to be maintained and makes the following recommendations:

Firstly, cocoa and sugar should be substituted for cheese and butter. He considered these latter items to be the most putrescent and indigestible part of a seaman's diet. Salted provisions should be reduced by one third.

[illegible] allowance of vegetables being increased [illegible] limes should be mixed with the allowance [illegible] used in the place of oatmeal. Fresh bread should be [illegible] instead of biscuit which he states is [illegible] monthly [illegible] and extra pay should be paid to the ratings [illegible]

He then recommended puddings made by the seamen in the following words

The puddings made by the seamen of flour and suet or raisins are very [illegible] from being wholesome they firmly form paste digestible with the utmost facility they might be made more wholesome and palatable with the addition of a little lemon ginger and molasses or a larger proportion of raisins than at present is used

The value of fresh fruit is then stressed particularly limes sour sops [illegible] pomegranates tamarinds and shaddocks (a fruit rather like an orange [illegible] up to 6 lb.) the dangers of overindulgence in sweet oranges [illegible] pineapples and ripe bananas are mentioned The use of purslain as [illegible] with salt meat in soups is advised The importance of [illegible] much, as a fresh vegetable is pointed out He considered [illegible] Cayenne pepper to possess antiscorbutic properties and he [illegible] its regular use with meat peas and soup

[illegible] then turned his attention to water and stated that [illegible] could be used to furnish water to a ship's company sweet and [illegible] in six days it is probable that many ships companies [illegible] soon after arrival in the country from using foul water long [illegible] In the water of the river Thames if standing must be very [illegible] but drinkable But he reserved his strongest condemnation [illegible] which seems to be an essential cause that our fleets and [illegible] more subject to disease than those of the Spaniards in these [illegible] He proposed that rum should never be served when sufficient [illegible] available and that if it had to be issued it should be done at dinner [illegible] then mixed with six or seven parts of water and if possible with [illegible] cream of tartar and sugar so as to form an agreeable punch

The chapter closes with a suggestion that the inhabitants of the West [illegible] Islands should be urged to make gifts of limes oranges and tamarinds [illegible] means of showing their loyalty and humanity to the ships stationed [illegible] there

Unwholesome air is the title of the next chapter and this subject is [illegible] under two headings firstly that occasioned by the vicinity of [illegible] swamps and high lands intercepting the breezes and secondly as [illegible] in various ways unhealthy a ship Gillespie considered the sea air [illegible] most effectual scourge of all these species of corruption in the vital [illegible] and recommended a trip to sea as the best cure for a ship's company [illegible] with sickness in harbour His own words end with the first mate [illegible] this should be the signal to murmur lest by delay the disease might [illegible] many men as to render the expedient of going to sea dangerous [illegible] it is not possible to proceed to sea due to the exigencies of the Service

he recommended that the ship should be moored as far from the shore as possible and be ventilated daily by being towed to sea or to the wind. The sick should be prevented as much as possible from the meridian sun, the heavy dews and the night airs.

Dampness in ships and the practice of washing decks daily without seeing that they were properly dried off afterwards are stated to be one of the most frequent causes of disease. He recommended that after washing the deck should be carefully scrubbed and fires should be lighted between decks to dry the ship thoroughly.

Next to dampness the foul air arising from the wells and holds of ships are stated to be a common cause of sickness. Gillespie suggested that the well should always be kept as dry as possible and that fires should frequently be made in it. He goes on to say that a clean silver spoon kept in the wine of the ship decided very serve to indicate to the Commander by its brightness or tarnished appearance the purity or foulness of the hold below. Steerages, bread rooms and mess decks should be ventilated daily by means of windsails and the value of cleanliness in these spaces is stressed. In sickly ships fumigation is recommended two or three times a week with gunpowder and juniper and sulphur or with burnt sugar and juniper berries tar or Spanish pitch or aromatic shrubs or woods.

Chapter III entitled "Sickly Seasons and Infections" stresses once more the need for diet. He recommended the issue of proper rooms, sour oranges and limes and the reduction of the allowance of meat and rum. An infusion of bark or bitters and orange peel, gentian, snake root, centaury, wormwood and chamomile or in preference to all Peruvian bark with or without should be given in the quantity of half a gill to all hands if possible every three days.

The Equinoxes and Dog Days are considered to be seasons very dangerous to the health of Europeans much travelled and all possible steps should be taken to guard them from intemperance and sharing during these periods. He remarked that "the crises of disease are generally more ready to give way to the attack upon the full and new moon than at other times."

The dangers of infection if a healthy ship's company by intercourse with a sick ship are stressed. He was essential that men be drafted from a healthy ship from a sick one their bedding and clothing should be well aired, sprinkled with vinegar and well aired. They should be formed into a separate mess and kept apart from the healthy members of the ship's company.

In the event of fevers developing onboard the sick should immediately be segregated and their attendants should have bitters administered to them daily. Their should be supplied with vinegar in which wormwood, sage, rue and rosemary or myrtle or tormentil herbs have been infused together with a little camphorated spirit and with this vinegar they should rinse their mouths, swallow a small quantity and smell to it occasionally after assisting the sick. Visitors to the sick should be discouraged and should also be made to use the vinegar mentioned above as well as avoiding a too near approach to

[illegible] the smell of their breath and observing not to swallow their [illegible]

[illegible] of deceased personnel should be burnt at once and that of the [illegible] fumigated and washed frequently. Fresh air for the convalescent [illegible] of the greatest value and as soon as their strength was [illegible] established they should be obliged to use the cold bath.

[illegible] the fourth chapter is "Of men being too much crowded [illegible] uncleanliness of men's persons, clothes and bedding, as musts [illegible]

[illegible] overcrowding of ships in hot climates was considered by Gillespie [illegible] frequent cause of ill health and he recommended that complements of [illegible] in the West Indies should be reduced by one sixth. As an example of [illegible] fatal effect of such reductions he mentions the case of the *Vanguard* [illegible] which after losing many members of their ships' companies from [illegible] in 1794 became healthy and efficient though only manned by two [illegible] of their allowed complement.

Meals should be eaten on deck and as many sleeping billets as possible should [illegible] on deck under awnings. The value and indeed the essentialness of [illegible] was emphasized as Gillespie considered the night air dangerous in hot [illegible] climates. Regular bathing times should be arranged and the ships' company [illegible] wash themselves daily. The custom of wearing the hour long be[illegible] to be weakening in hot climates. The men should therefore have [illegible] shortened and thinned on arrival out from England and should be [illegible] to bathe themselves daily.

Next to the value of cleanliness of clothes is stressed and the issue of flannel [illegible] to be worn next to the skin is advised. Gillespie then turned to bedding [illegible] the mattresses should be withdrawn and a second hammock issued. Bedding should be shaken out and aired at least twice a week by the whole ships' company and clean hammocks slung weekly.

These steps he considered to be essential if the health of the seamen was to remain high.

Chapter V on the dangers of over exposure to the sun, rains, dew and night air and of irregularities in shore and their frequent musical disease in communities shipping work between 1000 and 1700, the frequent use of awnings to guard against the sun and the issue of straw hats to all and hard. The dangers of sleeping on deck uncovered are again emphasized and the need for changing after exposure to heavy rain is pointed out.

When establishing camps on shore a dry elevated spot open to the East and North East should be chosen. Deep trenches should be dug to carry off the rain. The grass and brushwood around the camp should be cut down and burnt; sleeping on the earth should be forbidden and capsicum or Cayenne pepper should be mixed with the food.

Gillespie brought this chapter to an end with an attack on intemperance which is perhaps best reproduced in his own words. "The irregularities which men commit on shore or on board particularly in the intemperate use of spirituous liquors of the worst quality are amongst the most frequent

uses of their diseases. This abuse of spirits is the principal cause of the mortality which rarely fails to carry off a number of men [illegible] annually in English Harbour, Antigua, at times when the inhabitants are perfectly healthy. To prevent it is the more difficult as the prohibition of spirits and the punishment of their abuse amongst seamen tends to make them [illegible] unequal amongst them, and the preventing them ruining their health and demands the utmost vigilance. It is indeed true that an imperfect [illegible] with regard to strong liquors is so common that it seems strange to inflict corporal punishment on a man for this excess, but the infliction of a fine on him and the stoppage of his allowance of spirits in wine would be as merciful, have a good effect on him by affording him time for reflection, and the example would perhaps operate more powerfully in preventing a [illegible] like excess than punishment at the gangway. With regard to indulging [illegible] seamen in this propensity, it is certainly indulging them to their ruin [illegible] temptation, and the mismanaging the ship they belong to, as every person [illegible] acquainted with those islands, and with seamen, must know that it is [illegible] common for them to drink rum rum until they die upon deck on the spot.

An Admiralty Fleet Order issued in December 1849 [illegible] mention to this danger.

The vicissitudes of excessive fatigue or almost total want of [illegible] and dejection of mind considered as causing of diseases amongst seamen is the subject of the last chapter. Gillespie observed that crews of ships laid up in harbour or remaining a long time in port were always more healthy than those from stagnating ships. He deduced that this was caused by [illegible] of life or employment, and recommended the frequent exercise of great guns and small arms, in addition to what is now called Central Drill, as well as short cruises in the ships boats to neighbouring islands for a change of air and scenery.

Dejection of mind, caused by being far from home, and friends, with little or no resource of thought, is another source of sickness that Gillespie mentioned. His cure for this was amusement and active amusements, such as bathing, single stick, fencing, and pulling regattas. The great value of burning [illegible] is heard and the regular summons in the afternoon of all hands to dance is suggested. He went on to say, "I shall only observe that performing ship duty to the sound of music makes it go on more regularly, and with [illegible] attention than without that assistance." The watch on deck at sea should be encouraged to amuse themselves with songs and jibs.

Gillespie ends this chapter and the book as follows: "When unfortunately sickness pervades a ship or squadron, every means should be used to call away the minds of men from this object, as there is not a doubt but dejection and fear have the most powerful influence in spreading epidemic sickness, especially in ships whose tenants are so closely huddled [sic]. This is best done by active labour, or dissipation and amusement out of the ship if possible. The sick should be buried [sic] from the view of the ship's company, that none will who should have no access to the sick birth [sic], and in the committing of the dead to the deep, the ceremony of having the services read to

all hands at the gangway had much better be omitted as tending oftener to inspire terror and occasion disease than infuse religious resignation the strongest defence against all evils

There is no doubt that some of his recommendations and suggestions are based on faulty ideas or have outlived their worth due to advances during the last hundred and fifty years but there is still a great deal of truth in many of his proposals and his name is well worthy of being remembered as a man who had the health and well being of the lower deck very much in his mind in an age when these considerations were not always given due prominence

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A VISIT TO THE ATOMIC BOMB CASUALTY COMMISSION

BY

Surgeon Lieutenant D O HAINES, R N

DURING the stay of H M S *Challenger* in Kure Japan in April and May 1946 I met Dr G Plummer of the ABCC and was privileged to visit their base at Hiroshima

The ABCC main buildings are on Hijiyama commanding a wide view over the city These buildings are comparatively new construction of a Quonset type the Commission having previously been quartered in an old Japanese military establishment on the waterfront

The work of the Commission at this moment is centred on the remote physical and genetic effects of radiation A large section of the Commission is devoted to social and cultural field work employing a staff of Japanese lay and medical workers who take histories and form the contact between the research staff and their potential material and controls and publicize health matters

The research is on the following broad lines Three types of potentially affected patients are studied

(a) Those living within 2 000 metres of the hypocentre of the bomb when it exploded now aged 10 years or over

(b) Those living within 2 000 metres of the hypocentre of the bomb when it exploded now aged 19 years or less

(c) Offspring of parents both or either of whom fulfil the conditions (a) and (b) born after the explosion

Each of these groups numbers about 2 000 people In addition an equivalent number of controls of similar age distribution is studied from those not living or whose parents were not living in Hiroshima prior to December 1945

All patients in these categories have full physical examinations pulmonographs radiographs of wrists and incisors and full blood examinations both initially and serially Growth and development is studied anthropometrically

and [illegible] photographs. Except where the [illegible] discovered the [illegible] which are suspect and which [illegible] Disguises of all [illegible] lines of study are made but [illegible] study advisory.

Although this is a long term programme and [illegible] results are the only ones which to be significant.

Short cuts such as testicular biopsy have apparently been disappointing due to self selection of patients. Many autopsies are performed at the clinic and many surgical pathological specimens are received from the Japanese practitioners in the city, there apparently being no alternative free pathological service available. Some of this material will doubtless form a basis for examination of the incidence of neoplasia amongst the exposed.

The fact of a high incidence of cataract amongst the exposed is now well established.

There is no regular publication from the Commission and it will presumably be some time before their work is far enough advanced to publish a symposium.

Of the city itself much has been written. It only remains to say that the city has rebuilt itself save for the buildings below the centre of the explosion remaining for propaganda and tourist purposes. The well publicized shadow of the seated man on the steps of the Osaka Bank also was inspected. The alleged resemblance to Rodin's Thinker was not remarkable.

MEASUREMENT OF ARTERIAL BLOOD PRESSURE

There is far from a different opinion about how the arterial blood pressure should be measured and [illegible] medical officer may not be further in the standards laid down in the Committees appointed by the Central Society of Great Britain and Ireland and the American Heart Association in 1939. Their joint report was published in the *British Medical Journal*, [illegible] 2, 184 [illegible] kind permission of the Editor and Council [illegible]

Editor [illegible] Royal Naval Medical Service

THE JOINT REPORT

RECOMMENDATIONS

1. *The Instrument.*—The equipment to be used for measuring arterial blood pressure, whether of the mercurial or of the aneroid type, must be in good condition and requires to be calibrated at frequent intervals against a standard mercurial manometer. The British Committee think that the mercurial type is the more dependable. The proper care of these instruments and the importance of a standard armlet are dealt with in the explanatory notes that follow.

2. *Position of the Patient.*—The patient should be allowed time to recover from any recent exercise or excitement. He must be comfortable and may be either lying or sitting. The American Committee recommend that in

[illegible] and that of not a special note should be made. The patient should be comfortably supported at the patient's side [illegible] to avoid any constriction by a rolled up [illegible] of the armlet.

[illegible] *of the Cuff.*—The cuff must be of standard [illegible] wide. The cuff completely deflated should be applied [illegible] rubber bag over the inner side of the [illegible] to the upper third of the forearm to close in against bulging at the sides when it is inflated.

[illegible] *Determination of the Systolic Pressure by Palpation.*—A preliminary approximate reading of the systolic pressure should be taken by palpation as [illegible] auscultation. The pressure in the armlet should be raised quickly [illegible] mm. until the radial pulse ceases and then allowed to fall [illegible].

[illegible] *Application of the Stethoscope.*—The brachial artery should be located by palpation and the stethoscope applied lightly and accurately over [illegible] below but not in contact with the cuff. The hand may be pronated [illegible] according to the position yielding the stronger brachial pulse.

[illegible] *Determination of the Systolic Pressure by Auscultation.*—After inflating [illegible] to a pressure about 30 mm. above the level of the systolic [illegible] as found by palpation auscultation should be conducted during [illegible] deflation. The systolic pressure is the highest level at which successive sounds are heard.

7. *Determination of the Diastolic Pressure.*—With the pressure continuing to fall slowly and uniformly, the sound increases to its maximum intensity and then decreases, at first gradually and later suddenly, and soon disappears. The point where the loud clear sounds change abruptly to the dull and muffled sounds should be taken as the diastolic pressure. The American Committee recommend that if there is a difference between this point and the point at which the sounds disappear completely, the latter reading should be recorded also as a measure of the diastolic pressure. This should then be [illegible] in the following form—Rt. (or Lt.) 140/80, 70 or 140/40, 0, 11 if these [illegible] levels are identical as 140/70, 70. The British Committee disagree with the [illegible] and think that except in mitral regurgitation it is nearly [illegible] possible to decide the point at which the change comes and that this [illegible] only reading that should be recorded.

Explanatory Notes

The Committees feel that certain other considerations in addition to those [illegible] should be taken into account, and for convenience [illegible] should be in the same way as the relevant recommendations.

1. *The Instrument.*—Frequent discussions have taken place as to relative [illegible] of these types of blood pressure apparatus. The mercury manometer and the aneroid type of apparatus are both capable of correct readings if in good condition and both may be inaccurate if they are not. This is sometimes

neglected in reference to the mercury manometer which should be tested at intervals in the following ways

(*a*) The level of the mercury at rest should be at the zero mark If any mercury has leaked out it must be replaced

(*b*) If the small air vent at the top of the glass tubing becomes clogged there may be a lag which will give false readings

(*c*) The blood pressure box must be on a level surface since tilting of the manometer will lead to mistakes it should also be level with the observer s eye

The aneroid type of instrument if used must be calibrated frequently against a mercurial manometer The needle should stand at zero when the rubber tubing is deflated and move immediately when inflation begins A stop pin at the zero mark makes it difficult to check its accuracy In both types of instrument the valve must be competent The entire system including the rubber tubing and bag must be free from leakage The rubber cuff must be at least 12 cm wide it must be 23 cm long and its covering must be of inextensible material and if not of leather or made rigid with metal ribbing should extend as a band 10 cm wide for a distance of 60 cm beyond the edge of the rubber cuff and then taper gradually to an apex during a further length of 30 cm If bulging occurs the reading may not be accurate For children the rubber cuff may be narrower and the covering shorter New types of cuffs using a zipper mechanism or rubber hooks on a ribbed extension the same width as the cuff may prove to be more satisfactory than the long tapering cuff end

2 *The Patient*—The sitting position was selected by the American Committee because for practical purposes it simplified the taking of large numbers of blood pressure readings The British Committee did not think there was any significant difference between the readings obtained in the sitting and lying positions Certain physical and psychological factors should be considered Inquiry should be made as to the patient s activity just before the examination as strenuous exercise may produce changes in the figures recorded Blood pressure observations taken immediately after meals differ from those taken before meals There are physiological variations in the level of the blood pressure so that for research purposes observations should be made with the same relationship to meals sleep exercise and allied factors A rest period of from ten to fifteen minutes before taking blood pressure readings would eliminate or minimize certain of these factors Tachycardia in itself sometimes causes a raised systolic pressure Appreciation of the stress or anxiety through which the patient is passing is important to the examiner Any appearance of concern on his part may unduly alarm the patient thereby increasing the pressure Apart from this the first reading is often much too high because of the patient s nervousness

3 *Application of the Cuff*—Venous congestion must be avoided so far as possible there should be no constricting bands on the patient s arm and the pressure cuff should not be kept inflated longer than is necessary to take the reading it must be deflated completely before any further determinations

are made In obese subjects special care in the application of the cuff is necessary to prevent bulging Deflation should be at the rate of about 3 mm of mercury per second

4 *The Systolic Blood Pressure* —If the method of palpation is used before the auscultatory method as recommended the unusual case with a silent gap will not be missed In these cases after the first sounds have been heard there is an auscultatory gap below which the sounds reappear This silent gap is not very uncommon in cases of aortic disease and hypertension

POSTSCRIPT —In 1950 the American Heart Association appointed a committee to revise and bring up to date where necessary the 1939 findings detailed above The report of this committee was published in the Journal of the American Medical Association of 13th October 1951

COMPARISONS OF THE NAVAL, MILITARY, R.A.F AND CIVIL MEDICAL SERVICES WITH PRIVATE PRACTICE

PART X

BY

Surgeon Captain R C MUNDAY, *C B*, M R C S, L R C P, R N (Rtd)

Now came the anxious days preceding the outbreak of the 1914 War I shall never forget the morning at the Admiralty when the shock came At first it seemed to the Director General that hygiene must take a place far down the list of important matters needing urgent action and I was assigned to duties of an entirely different nature Arranging for the transport of probable sick and wounded from the ports to hospitals I attended meetings with the chief executives of the big railways and bus companies we commandeered a large number of buses and converted them into ambulances I was sent in various directions to inspect large mansions and hotels with a view to requisitioning them for hospitals

It was not long before there was a trend of opinion to the importance of hygiene in war The War Office had of course realized it ever since the Boer War and had made enormous strides in giving the Medical Department its proper place in the conduct of campaigns The Admiralty and the Navy have always been conservative and disinclined to changes of policies but I went back to my original work in the Medical Department hygiene of ships and now I was also to take in Naval Barracks and Camps

When the R N A S was formed it will be understood that inspection and supervision of the numerous aerodromes with their hutted and tented camps became of great importance and I was kept busy travelling here there and everywhere on this duty Twice I was sent to France to report on the living conditions of pilots and airmen lent from the R N A S to the Army I am afraid that I strayed out of my proper path of duty on occasions when I

visited Ypres Cathedral and Cloth Hall. I was in naval uniform and when stopped by the guard at the gates said I wanted to see the Town Major. They were not familiar with naval badges of rank and thought it wise to let me pass. My chauffeur (a very old soldier) said that he must stand by the car at Poperinghe so I was alone. As luck would have it the war had for an hour or so become as peaceful as an English village. I saw not a single soul as I walked through the ruins and the rubble strewed street to the lunatic asylum to which I had been directed by the guard who hastened to explain that no offence was meant either to me or the Town Major as the original inmates had long ago been killed or dispersed and the building was in ruins except for its extensive basement which was used as headquarters offices.

When I reached him the Town Major asked me from whence I came and how and why. I replied that all I wanted was permission to enter the city and see the Cathedral and Cloth Hall. "Well" he said "here you are and there are what you came to see" pointing to two ruins about 100 yards off "but if you value your life you won't move from this dug out until after dark." He explained that although I had not heard a sound or seen a soldier there was a vast army hidden all round us in and under the ruins waiting and watching for an attack from the trenches to the north of the City or a heavy bombardment or attack from the air. I thought he was exaggerating and said that having come so far I must make a hurried inspection of the objects of my pilgrimage which I safely accomplished. It was a saddening sight so much smashed beauty elaborately carved stones and lovely stained glass.

I had hardly got back to my new friend when a lone enemy plane came slowly overhead at such a fantastically low level according to present day fashions that one could almost see the pilot. Then the apparently dead city suddenly came to life with the firing of numerous well hidden guns. It was laughable to see the effect on the aeroplane's course which was serenely maintained without any deviation in any dimension nor did there appear to be any increase in its speed. But for several minutes our fire met with a heavy response from the ground and a few wounded were brought into our basement. As my assistance was not required and all firing had died down I said to the Town Major "I see what you mean" and made my way back to the car.

My war experienced chauffeur was relieved to see me and to get away with the car in one piece. Next day I was invited to go into the front line trenches and have a look at the enemy trenches 50-100 yards away. I'll get there we took the car to the shelter of a ridge behind Plug Street where I left it to walk to the entrance of the communication trenches. Again everything was as peaceful as a Sunday afternoon in the depths of the English countryside. Actually in the front line only a few men were posted on the fire step the rest could be seen asleep in the dugouts. My guide and I trod very delicately and spoke only occasionally and in whispers. I gazed at the enemy lines through a periscope but saw no movement. Then I was urged to get away while the going was good unless I wanted to be caught in a raid. Some desultory firing from both sides took place while we were talking, whizz bangs, rifle fire

machine gun and an occasional heavy shell When I got back to the car I was shown a fairly large shell hole made by an ever the ridge an uncommon event

About six months later, just after one of the Army's spectacular advances following the explosion of three enormous land mines I was on another tour of inspection of aerodromes and happened to be near the scene of action We had taken the town Menin which had dominated Ypres for years and of which I had caught a distant glimpse I had a silly indefensible but perhaps understandable curiosity to see the place from which the Germans had just been driven It was a long and tiring march over a shell pitted remains of a road with big shell holes on either side Our pursuit of the retreating enemy had reached the inevitable slowing up stage and he had just begun to resume some reply to our shell fire I was convinced that I was in no great danger although shells were landing on either side and in front and behind me It seemed to me that one could hear the thing coming for so long that one would have plenty of time to dive for one of the numerous large old shell holes if the shell was coming too near and once in a hole it was unlikely to be visited for the second time

I got into the town a shambles of ruins and dead Germans and very much alive Australians who were in the highest spirits

It is strange that one can be so terribly afraid of some not really dangerous situations and unmoved by others which quite rightly make sensible people avoid them if decently avoidable I could and did swim long distances in fairly rough seas but I never got over my intense dislike of sailing in an open boat in a stiff breeze unless I was steering I was always terrified of flying in till my many flights as a passenger while pretending to be much interested I strive to get used to it but I was merely interested in my experience under shell fire and when I got back to my temporary headquarters at the aerodrome and was told by the Commanding Officer that he had caused a comfortable dugout to be prepared for my slumbers because the Boche was quite certain to drop bombs on us on this lovely full moonlight night I said it was so hot and I was so tired that I must insist on sleeping on my camp bed in my tent He shrugged and let me have my way I was just getting off to sleep when I heard and saw through the tent wall the noise and flashes of the falling bombs but I slept soundly until roused by my batman I chaffed the young Commanding Officer about the shortness of the raid He assured me it had gone on in waves most of the night In World War II I always remained in my bed during the numerous night raids on Plymouth and continued with my work in the daylight raids except for a few days when the authorities insisted on a descent to the basement of the whole Recruiting Medical Board I used to tell the recruits they could take cover if they wanted to but none ever did although one or two clerks would disappear Of course the really brave man is he who realizes danger and is afraid but does his duty in spite of everything

The night before I left Hazebrouck for the coast on my way home the young R A M C officer who had been attached to me as guide during my wanderings

in the course of which he had earned my sincere gratitude asked me if I would do him the great favour of giving an Army nurse a lift in my car to the embarkation port as she was going home on leave and the lift would enable her to get home a day earlier than the train journey which was very slow Of course I was only too pleased and said he could fill the car with nurses going on leave as far as I was concerned A rendezvous was arranged for 8 30 a m but no nurse appeared only a sad young officer who explained that the matron had returned unexpectedly from leave and the nurse was afraid to accept the lift as the matron frowned on lifts by officers to nurses I offered to see the matron myself and let her judge how safe the nurses would be in my venerable charge He said You don't know the matron she would not let a nurse go with Hugo I have often wondered whether the matron was right or wrong to be so strict and so apparently callous to the loss of an extra day a leave for the nurse

When I got back to the Admiralty and had handed in my report I found that a new submarine fitted with furnace and engine for steaming on the surface was to undergo underwater and surface trials and the Constructor Department had as usual notified me in case the Director-General wanted me to report on her habitability under water and her ventilation on the surface but unfortunately as I then thought the Director General would not listen to my interest in the submarine s trials because he particularly wanted a report on the conditions under steam trials in the Atlantic of a new battle cruiser fitted with the latest improvements in ventilation etc

When I got back from my cruise in this ship I learnt from one of the survivors of the sad disaster in which more than half of the 60 people on board were drowned or suffocated in the after compartments of the submarine containing the new device for steaming on the surface If I had been allowed to go I should almost certainly have been in that part of the vessel

On one of my submarine voyages in the Channel we had the disagreeable experience of surfacing at the correct time and the appointed trysting place arranged with the destroyer which had been told to meet us some miles south west of the Eddystone and escort us into Plymouth Unescorted submarines were difficult to distinguish from well disguised enemy submarines making an entrance into the harbour and creating havoc before being spotted So the rule was when in doubt about the identity of an unescorted submarine open fire on it

We slowly approached the breakwater making signals to prove our identity I do not know what would have happened if our escort had not appeared on the horizon to confirm our story My impressions of 24 and 36 hours dives in submarines are as follows no unpleasant smells more experienced such as offend the nose when a surface ship is battened down The reason is I think that the whole interior of all the submarines I visited were kept in a highly polished state of cleanliness there seemed to be nothing but bright metallic surfaces everywhere whereas every surface vessel contains material which is apt to be invaded by sea water harbouring minute animal and vegetable life liable to putrid changes The unpleasant odour associated with the between decks

of a battened down ship is I think not noticed when natural and artificial ventilation has full play because of the enormous dilution of foul by fresh air

Another impression I formed was that whilst one was at rest the lack of oxygen (demonstrated by failure to strike a good match on a good box) was not appreciated until one made even a slight effort to exert oneself One could talk with animation and one appeared to be able to think clearly while eating a good meal but the man waiting on us with dishes and plates was, I noticed panting with this slight exertion and I also reacted to walking the length of the boat It is certainly very necessary that air in submarines while diving should be kept in palpable motion by a number of electric fans I read with great interest the new device for keeping submarines under water for much longer periods than has ever been contemplated before Reports began to come in during 1916 of a mysterious outbreak of jaundice accompanied by haematemesis and hæmaturia affecting the officers and men of some of the older classes of submarines after prolonged diving It threatened to hamper our submarine operations very seriously but for some time no diagnosis of the cause could be made Dr Haldane of Oxford was called in and he and I visited the affected submarines and their crews in hospital It took him very little time to diagnose the illness as due to poisoning by arsenuretted hydrogen but a little longer to determine its origin this was found in the adulteration of the sulphuric acid during its manufacture for use in the batteries A day or two after these discoveries had been made we received a code message from the French Admiralty describing a perfectly similar outbreak in their submarines We thought it best for security reasons not to explain by signal of any sort what had happened and our remedies but to invite a French Naval Medical Officer associated with submarines to visit us I had the task of making him acquainted on the spot at Harwich submarine depot with all we had discovered This was a little difficult because although he could read and write good English his pronunciation of most technical terms made it impossible to understand him until he wrote the words For instance he pronounced hydrogen as eedrogen with overwhelming emphasis on the second syllable Oxygen was rendered as Uxeegen It was the almost complete ignoring of the first syllable in each case which made it difficult to understand his spoken English He it appeared had been born and brought up in Alsace and spoke German fluently During the night journey in a crowded first class carriage down to Harwich he became very sleepy having just arrived after a tiring journey from Paris so I was not surprised when he answered one of my questions during the silence of a stoppage and wait with a loud Nein Nein But the effect on our fellow travellers all imbued with the necessity for a watch for spies and escaping prisoners was electrifying and it took me some time to reassure them After that I let him sleep I showed him our device for absorbing the escaping arsenuretted hydrogen in permanganate of potash and explained the difficulty of making sure of obtaining sulphuric acid free from any trace of the poison until the method of manufacture was altered

In early 1917 the medical officers connected with the Royal Flying Corps (who were called up from civil life from the Education Department the

Public Health Department or the visiting staffs of the big London hospitals) became aware of certain ill effects on pilots flying higher than 15 000 feet and to a lesser extent on inexperienced pilots flying at a lower ceiling and they came over from the War Office to consult the Headquarters of the R N A S at the Admiralty on the need for a specially strict medical examination of prospective pilots with reference *inter alia* to eyes ear nose and throat heart and renal efficiency These officers were referred to me for consultation as I was the Assistant Director General concerned with the medical aspects of Aviation About this time there was much heated discussion going on in a four cornered fight between the Navy the Army the Royal Flying Corps and the R N A S Most senior flying officers in both R F C and R N A S were in favour of creating a new service completely independent of the War Office and Admiralty but there was strong opposition amongst senior officers especially in the Army

It seemed to me that a fusion of the R F C and R N A S into one Service independent of the Navy and Army would undoubtedly further the efficiency of the medical care of flying officers and the study of the ailments produced by high and prolonged flying

A committee was formed of the Senior Officers of both Services to receive evidence on the question to discuss fully the pros and cons and to make recommendations as to fusion General Smuts who was a member of the War Cabinet was appointed chairman I was present ready to assist the Director General of the Navy with any information he might require The discussion became at times very heated and gave General Smuts many opportunities of displaying his tact and complete impartiality as between the protagonists

Smuts told the War Cabinet that the R A F should be formed as quickly as possible and that a new R A F medical service was a corollary of equal importance so the Air Department of the War Office became the Air Ministry When the organization of the new medical service was decided on the R A M C officers at the Air Ministry were rushed for suggestions as to who should be invited to carry out this thankless job Thankless because it would be very like making bricks without straw in the face of strong opposition from highly placed people who wanted to see the project fail and demonstrate their sagacity in opposing it

About this time I was busy in my office when the Director General s messenger (a sort of High Priest of Messengers) burst unceremoniously into it with an incoherent announcement that I had got the Chadwick Gold Medal and £50 I dismissed him as a troublesome gossiper and babbler of false tales He muttered angrily I tell you I had a look at the correspondence I could think of no medal or £50 which I might have achieved and resumed my lawful occasions But there came another invasion from the Chief s messenger—this time to summon me to Presence and then to my astonishment I was told that I had been awarded the Chadwick Gold Medal and £50 The Director General was amazed when he realized that I was unaware of the existence of the prize He proceeded to explain that in the eighteenth century

an engineer named Chadwick became an ardent reformer of hygiene of the slums ashore and afloat that he met with bitter opposition in the face of which in and out of Parliament he eventually succeeded in raising the standard of prevention of disease and to keep the good work going he left a large sum of money the interest of which *inter alia* provided for a gold medal and £100 to be awarded to the medical officer (to be selected from the Navy and Army alternately every five years) who had done most to improve and maintain the health of his Service It will be seen that this arrangement meant that ten years had to elapse between each award to the Navy or the Army Ten years previously I had not been sufficiently thrilled by the announcement of the award if indeed I had heard of it to remember anything about it

Thus it came about that my wife and I accompanied the Director General to a meeting in London of the Chadwick Society composed of eminent authorities on hygiene I was told that I had been awarded the prize on the ground of my work on the Committees on Boys Training and on ventilation of ships besides my part in the carrying out of the recommendations of the latter It was also argued that I had been successful in discovering the origin of outbreaks of enteric fever cerebrospinal meningitis and virulent measles afloat and ashore, and had suggested means for stopping them which had proved efficient and speedy If I had known this award was about to be made it would never have occurred to me that I might be considered for it for the simple reason that I had never even sat for the D P H exams although I had read a large number of books on hygiene both English and American whereas my friend and colleague at Greenwich had not only obtained this diploma but had been the first Professor of Hygiene at the setting up of the Medical School at Greenwich nor was he the only officer whose claims seemed to me greater than mine many had the D P H

The Director General had formed the habit of sending me off to investigate any untoward occurrences or prevalence of disease in ships or establishments The battle cruiser *Australia* manned by Australian officers and men reported an outbreak of measles with five deaths in a few days She was lying with the rest of the Battle Cruiser Fleet in the Firth of Forth When I reached her I found she had no less than five medical officers all Australian by birth They told me that measles was practically unknown in Australia and that they had had no clinical experience of the disease previous to this outbreak They did not know what Koplik's spots were had not isolated the ship in any way or taken control of contacts

All I did was to recommend the usual steps to prevent spread and put a stop to the epidemic The reason for the high mortality and severity of the cases was of course the vulnerability to infection of men born and brought up in a continent where measles was said to be practically unknown

Cerebrospinal meningitis during 1916 and 1917 was spread over a wide area containing many shore establishments but as usual in this disease the number of notified cases was comparatively small although the mortality and invaliding rates were high in proportion the military significance in both Navy and Army as affecting the conduct of the War lay in the means to

control the spread of the disease, rather than in loss of man power which was negligible

Having consulted all the modern literature I could obtain from the Librarians of Greenwich Medical School and the College of Physicians I based my recommendations to the Director General on the conditions I found at Plymouth Portsmouth and Deal in ships and establishments and on my study of the literature I was given every facility to make any investigation I liked everywhere especially by Surgeon Captains and Admirals

I must now return to the birth of the R A F the Air Ministry and the R A F Medical Service It so happened that of all the naval and military officers associated with the R F C and the R N A S I was by far the senior in rank and the only one holding office as Assistant Director General

I was sounded unofficially as to whether I would undertake the job of organizing the new service It was suggested that if I liked the idea the Air Ministry would ask the Admiralty to lend me for the purpose and it was hinted that if I accepted I would become the first Director General

It was the hardest decision I ever had to make and to this day I do not know whether I took the right road I was very happy as Assistant Director General and when I asked my third Director General on his taking office to let me go to sea he was kind enough to say he could not spare me until he had shaken down in his new office the work of which was so new to him that he needed all his predecessor s staff to remain with him until he had got the hang of things

When next I applied to serve afloat he told me that I was wanted for a much more important job on loan to the Air Ministry and he would not stand in my way Of course he said you must take it on

At the Air Ministry I had assigned to me as assistants two very able medical men from the Ministry of Education who had been serving since the outbreak of war as temporary Captains in the R A M C attached to the R F C One of them had gassed his wings and broken his cervical vertebrae in a crash which ended his career as an aviator but enhanced his interest in the medical aspects of aviation Both were concerned with the medical examination of prospective pilots

Applications from Naval Military Indian Colonial and Civil medical officers poured in but it was very difficult to require their services even though they were until 1st April, 1918 only lent to the Air Ministry On that date the R A F was born and with its birth and infancy came teething troubles first and thick It had many enemies in and out of Parliament and they seized every opportunity in the Press Parliament and public speech to draw attention to alleged mistakes and incompetence in the organization and administration

The question of titles for the various ranks in the R A F gave rise to so much discussion that it was thought best to cut it short and get on with other more important problems by adopting military titles and I was made a Major General remaining so ever since because I resigned my office before the present titles were created and substituted for military ones It has amused me very much in after years to overhear my friends arguing for and against the time in

that I was made a soldier although I had been thirty years in the Navy I have been led to understand that bets have been laid and accepted on this important question

Eventually I went back to the Navy The Director General was very kind and offered me leave right away to be followed by one of the plums in the Naval Medical Service charge of the Infirmary at the Royal Marine Barracks Eastney as soon as it became vacant I spent my leave at my old Hospital Barts trying to absorb as much clinical experience as I could in the short time available My own contemporaries were now on the Senior Staff and I was treated with more deference than I deserved but I was enabled to see and do everything I wanted In particular one distinguished Surgeon and Lecturer Mr McAdam Eccles, my old student mate in the dissecting room now spent much of his valuable time in renewing my clinical experience

I received a hint from the Air Council that my name would appear in the New Year Honours List 1919 and was created C B (Military) I accepted When the time came for me to attend the levee at Buckingham Palace I had returned to the Navy and was wearing the uniform of a Surgeon Commander

King George V never performed any ceremonies in a perfunctory or auto matic manner and when I knelt before His Majesty to enable him to invest me with the scarlet collar of the C B I heard a whispering colloquy going on between the King who said there must be some mistake and the official handing out the decorations who had to explain that I was both a Major General R A F and a Surgeon Commander The King grasped the situation invested me shook hands and entered into long conversation with me much longer than with the other recipients of decorations no doubt to make up for his previous hesitation The whole incident was emphasized by the band stopping and consequent stillness in the room This was of course a coin cidence If it had not been for the King s gracious manner in putting me at ease I should have been embarrassed instead I felt honoured by his interest in my unusual career He finished by saying I am very glad you have got the C B

(To be continued)

Clinical Notes and Cases

A CASE OF AORTIC INCOMPETENCE

BY

Dr W W WOODS, Surgeon Lieutenant-Commander P B NICOL R N, and Surgeon Commander J C GENT, R N

THE following case is reported more from its pathological than its clinical interest

Early in 1946 the patient aged 36 began to suffer from attacks of paroxysmal tachycardia They came on at odd intervals day and night and were not related to exercise being just as likely to come on when he was in his hammock as when he was up and about Three months later he began to get precordial pain and dyspnoea on exertion He did not report sick however and it was not until a month later that a recent enlarged heart showed that he was sent to hospital and in May of that year he was invalided out of the Service as a case of aortic incompetence

His condition deteriorated steadily after that and before long he was in Hospital with congestive cardiac failure and obliged to sit propped up in bed

On 3rd March 1948 he was admitted from hospital and on 5th April was transferred to a Royal Naval Hospital

In addition to his pain he was a pale distressed man He was dyspnoeic at rest and his pulse rate was 100 There was visible pulsation in the carotid arteries

The heart was greatly enlarged the apex beating located in the sixth intercostal space and mid axillary line The area of cardiac dullness extended towards the right upper sternal and also to the right of the sternum On auscultation the cardiac rate and rhythm were detected at the apex area The basal systolic murmur was heard from the right edge of the sternum and at Erb's Austin Flint murmur was heard at the mitral area Blood pressure 130/60 A well marked Corrigan's pulse was felt in both arteries There were no other signs of aortic aneurysm

A few rales were heard at the base of both lungs but other systems were normal

There was no relevant previous history He had a severe bout of rheumatic fever in childhood ailments He had never had rheumatic fever and denied syphilis

Investigations—Urine S G 1009 Reaction acid Albumen present Sugar nil Micro Leucocytes and epithelial cells in the urine both granular and cellular

Sedimentation rate 15 mm per hour

Blood urea 33 mg per 100 ml

Complete blood count R B C 4 850 000 per c mm H B 11 Gm per 100 ml C I 0 98 Leucocytes 8 800 per c mm Polymorphs 88 per cent Lymphocytes 10 per cent Monocytes 1 per cent Eosinophils 1 per cent

Skiagram (Portable)—Cardiac shadow grossly enlarged in all diameters left ventricular outlines were difficult to identify especially the left of the aorta The hilar shadows were enlarged and congested

Electrocardiogram—Showed left axis deviation preponderance of the left ventricle R R interval 0 32 second and appearances suggestive of left bundle branch block

Wassermann and C F R negative

[illegible] hospitalized as quickly as possible and the [illegible] to [illegible] of symptoms He suffered from frequent [illegible] [illegible] omnopon and oxygen

On 19th [illegible] the oedematous the oedema soon spread [illegible] [illegible] and though the [illegible] [illegible] the oedema and the [illegible]

[illegible] a fatal [illegible] [illegible] the [illegible] [illegible] the [illegible] [illegible] Mercuhydrol or any other [illegible]

[illegible] of the disease thereafter calls for little comment there was [illegible] the condition towards the end of September and the attacks [illegible] very distressing On 13th October at 1710 he had an attack [illegible]

At [illegible] performed by Surgeon Commander P B Nicol R N the [illegible] was found to be heart failure from aortic incompetence of the type [illegible] Relative Aortic Incompetence as it was due to dilatation of the [illegible] ring this dilatation had been caused by syphilitic aortitis Other findings were gross oedema of the lungs with bilateral pleural adhesions congested nutmeg liver hard congested spleen and kidneys The abdominal aorta showed a slight degree of atheromatous change only There was no other evidence of specific disease old or recent

The heart with the arch of the aorta was sent to Dr W W Woods who reported as follows

REPORT

There is diffuse aneurysmal dilatation of the ascending aorta as far as a point 4 cm below the innominate artery the circumference of this diffuse aneurysm is about 18 cm but it is difficult to measure accurately owing to its being kept attached to the heart for museum purposes There is syphilitic aortitis throughout this dilated part the intima in it being nowhere normal much of it pale greyish white and uneven from a variable degree of fibrosis though without the succulent patches of more pronounced syphilitic thickening is seen in cases of more active aortitis there are very numerous pits in the intima and shallow pouches the wall of the aneurysm being translucent at these spots

There is quite a severe degree of secondary atheroma superimposed upon and obscuring the syphilitic intimal thickening the atheroma consists of numerous yellow fatty patches a few calcareous areas and one ulcer

The features of aortitis and severe atheroma cease abruptly at the point 4 cm proximal to the innominate artery as does the dilatation the arch of the aorta is 7 cm in circumference and its intima is yellow smooth and normal except for slight atheroma in the shape of a few yellow flecks and one yellow patch

The aortic ring (at the level of the commissures of the aortic cusps) is very dilated (12 cm circumference)

In the aortic valve there is slight syphilitic endocarditis showing as the

—ard like thickening of the free margin of each cusp that is so characteristic of the less severe degrees of syphilitic aortic endocarditis the rest of each cusp is quite deep (1 5 cm from attached margin to free margin) translucent and normal except for patches of slight fibrous thickening in the body of the right posterior cusp The cusps are abnormally long particularly the right posterior cusp which measures 4 5 cm from commissure to commissure this stretching of the cusps is presumably secondary to the dilatation of the aortic ring

The syphilitic fibrosis of the cusps does not appear to be severe enough to make the valve incompetent so the main cause of the incompetence must be the dilatation of the ring

The severity of the aortic incompetence is indicated by the dilatation and great hypertrophy of the left ventricle its cavity is 13 cm long from apex to aortic valve it is 1 7 cm thick at its thickest this measurement excluding columnæ carneæ which themselves are greatly hypertrophied The other cardiac chambers are slightly enlarged but only to the degree always found in association with left ventricular hypertrophy

There is an area of fibrosis of myocardium involving the whole circumference of the apex of the left ventricle and the neighbouring lowest parts of all walls of the ventricle it measures 7 cm along its curved course and shows the myocardium replaced by tough white fibrous tissue containing a few brown specks of muscle its point of greatest contraction is in the anterior wall of the left ventricle 1 5 cm above the apex where it is 0 5 cm thick The fibrosis becomes gradually less upwards and fades off in the interventricular septum and posterior wall of left ventricle about 5 cm above the apex There are fibrous pericardial adhesions over the lower 5 cm of the right side of the anterior wall of the left ventricle

Slices across the rest of the left ventricle disclose no further myocardial fibrosis and therefore the large localized apical area of fibrosis has the characteristic appearance of an old scarred myocardial infarct But unsatisfactory cause of a myocardial infarct looms up in this case The foramen ovale is closed The orifices of the coronary are only slightly narrowed by the syphilitic aortitis each orifice is 0 8 cm in circumference each artery immediately beyond its orifice is 1 1 cm in circumference the main coronary arteries throughout their course are normal except for a plaque (0 7 0 4 cm) of thickening of intima causing no significant stenosis in the anterior descending coronary artery at the point where it gives off its second branch 1 8 cm from aorta

There are numerous conspicuous white streaks of fibrosis of the mural endocardium over the columnæ carneæ in a localized area situated in the upper 4 5 cm of the right side of the posterior wall of the left ventricle and there are similar though grey and fainter streaks on the neighbouring ventricular surface of the anterior cusp of the mitral valve These are the areas where the stream of blood regurgitating through the incompetent aortic valve would strike during diastole There is a patch (0 7 × 0 4 cm) of white fibrous

thickening of the mural endocardium of the interventricular septum immediately below the pars membranacea septi

Microscopical Examination

In paraffin sections of three pieces of ascending aorta there is atheroma and severe aortitis the latter however appears to be quiescent as round celled infiltration is slight and only in the adventitia In the intima there are plaques of fibrosis containing delicate elastic fibres and there is atheroma featuring as calcified areas foam cells and spaces left by cholesterol crystals The elastic and muscle fibres of the media have been replaced by fibrous scar tissue There are patches of infiltration with lymphocytes and plasma cells in the adventitia which is thickened by fibrosis

Sections were examined of four pieces that include the whole of the largest diameter of the area of myocardial fibrosis The lesion is composed of dense collagen abundant elastic fibres sparse fibroblasts and extremely few lymphocytes In only a very few of the numerous arteries of varying size there is elastico fibrous intimal thickening and it is slight This virtual absence of endarteritis is the main point against the lesion being syphilitic myocarditis It seems probable that it is a scarred infarct

In paraffin sections of the solitary plaque in the anterior descending coronary artery the plaque is seen to be characteristic of atheroma it is composed of collagen and elastic fibres with a few vacuolated cells The media and adventitia are normal

It is of interest to note that as the Wassermann and P P R were consistently negative and the patient had no antisyphilitic treatment the macroscopic and microscopic evidence of great lowering of the activity of the syphilitic aortitis would seem to indicate spontaneous regression of the activity of the aortitis after it had done its worst by destruction of the elastic and muscle fibres of the media

Remarks

This is a typical example of the well known condition of chronic aortic incompetence due to dilatation of the aortic ring (the name used to indicate the part of the aorta at the aortic valve) as the result of syphilitic aortitis

There are however two interesting side issues One of these is the area of fibrosis at the apex of the left ventricle This might be either an area of syphilitic myocarditis or an old infarct There are two sorts of syphilitic myocarditis a localized gumma and a diffuse infiltration widely spread in the myocardium The fibrosis in this case is in a localized area so if it were syphilitic it would be the scarred stage of a gumma But a gumma might be expected to destroy all the muscle fibres at its centre and here there are brown specks of surviving muscle fibres all through the area of fibrosis and this is what is commonly found in an old infarct

The lesion is therefore probably an infarct

But there is no satisfactory cause for an infarct

The fact that the foramen ovale is closed excludes a paradoxical embolus from a thrombus in a vein.

The absence of any disease in the coronary arteries save for one small patch of atheroma practically excludes coronary thrombosis.

The degree of stenosis now present at the coronary orifices is not of sufficient severity to produce the infarct. But this is a very old infarct and it might be argued that some time ago when the aortitis was more active the intimal thickening at the coronary orifices was more severe and during a period of acute endarteritis swelling might have produced a temporary complete occlusion of a coronary orifice. On the other hand an infarct due to occlusion of a coronary orifice should affect the myocardium nearer the base of the heart as well as the apex; it should not be in the apical region only. Another possibility is that during a period of more severe heart failure from aortic incompetence a thrombus formed in the left ventricle and a piece of this became an embolus which lodged about halfway down the anterior descending coronary producing an acute necrosed infarct, and later the embolus became liquefied and disappeared, leaving no trace in the artery at the site of embolism. The best example of this sequence of events is seen sometimes at necropsy on a case of mitral stenosis with thrombosis in the left auricle where an old infarct is found in the brain which from the nature of the case and the absence of disease in the cerebral arteries must have been due to embolism and yet the arteries going to the old infarct are quite normal with wide lumina.

It seems impossible to decide which is the most likely of the above causes of the infarct in this case.

The other interesting point concerns the slight fibrosis of the mitral endocardium and of the ventricular surface of the mitral valve. The situation and streaky nature of this fibrosis would seem to point very strongly to the view that it is due mainly to the actual trauma of the regurgitant stream of blood through the aortic valve hitting this area during every diastole, combined perhaps with the syphilitic infection. An analogous phenomenon that is generally accepted is that the early rheumatic lesions of the mitral valve are more severe near the free margin because this is the area subjected to the constantly recurring trauma produced by the cusps meeting each other violently when the valve closes.

In our case the interest attached to the fibrosis on the ventricular surface of the anterior cusp of the mitral valve becomes greater by consideration of its implication in the theory that the cause of the Austin Flint murmur in aortic incompetence is the impact of the regurgitant aortic stream of blood on the ventricular surface of the anterior cusp of the mitral valve when the valve is thrown open during diastole so that the anterior cusp is thus prevented from swinging out to leave a completely open mitral orifice and this would act like a mitral stenosis. The Austin Flint murmur is very like the presystolic murmur of ordinary rheumatic mitral stenosis. In our case the fibrosis seems to provide morbid anatomical evidence that such an impact occurs and is the cause of the murmur.

SUMMARY

A case of syphilitic aortitis with valvular incompetence is described.

No history of syphilis could be obtained from the patient and no scarring such as might have resulted from a primary lesion was found. The Wassermann reaction was consistently negative.

The post mortem findings are described and observations upon the possible cause of the Austin Flint murmur are included.

A MAXILLARY DENTAL CYST ASSOCIATED WITH A SEQUESTRUM AND ACUTE INFECTION

BY

Surgeon Commander (D) D. L. GOODRIDGE, R.N.

THIS dental cyst in the maxilla presented itself when the patient reported complaining of a swelling in the palate and a history of a swollen lip about ten days previously which, whilst he was on leave, was treated by a civilian practitioner.

On examination he had an area of disfigurement on the left cheek and lip due to a [illegible] burn caused by a fomentation. The $\underline{|2}$ was discoloured and tilted distally [illegible] was a gap between $\underline{|1}$ and $\underline{|2}$. There was very slight buccal alveolar enlargement. Palatally there was a tense tender fluctuant swelling 25 mm. in diameter, restricted medially by the median raphe. There was a history of a blow on the mouth with a football boot [illegible] previously.

[illegible] was found a small dental cyst involving the roots of $\underline{|123}$. Lying between $\underline{|2}$ and $\underline{|3}$ was an ichnite opaque body about 7 mm. long and 3 mm. wide (fig. 1) which [illegible] is a piece of sclerosed bone.

FIG. 1

[illegible] under penicillin [illegible] extracted and the [illegible] elevated. The [illegible] to be between [illegible] Initially the [illegible] within the [illegible] by [illegible]

[illegible]

COMMENT

Macroscopic examination showed that the opaque body was a small sequestrum of dead bone firmly held in position by bony trabeculæ. It is believed that the acute sepsis came from this sequestrum and that the dental cyst was at no time acutely infected. The sequestrum was caused by the interference in the nutritive supply to the area by the increase in size of the cyst.

TWO CASES OF DRACONTIASIS

BY

Surgeon Lieutenant H. R. MALLOWS, R.N.

HAVING previously considered the classical illustration in Manson's Tropical Diseases of "Guinea worm emerging from sole of foot" as a rather invidious clinical curiosity of little practical value except to frighten one's little sister, it naturally came as something of a surprise to be confronted with a clinical case. Once the first case had been seen, however, a second was of course expected to follow shortly, and did indeed appear some two months later.

CASE HISTORIES

Case 1.—An Indian seaman, aged 45.

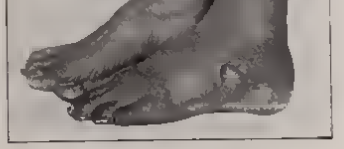


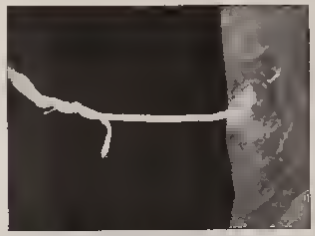
FIG. 1.

This [illegible] in an R.I.A. order and on [illegible] 1950 [illegible] of the left foot for the previous three [illegible] examination [illegible] was found [illegible] a large blister [illegible] in diam. just [illegible] the medial malleolus (fig. 1). [illegible] necessity to consider [illegible] for the patient [illegible] that the blister was caused [illegible] and the [illegible]

[illegible] Hong, Hong, and he was [illegible] Medical Unit as an interesting [illegible] extraction with the usual resulting inflammatory [illegible] was discharged on 16th March 1950. [illegible] of the left leg and [illegible] blister [illegible] admitted to hospital he was discharged [illegible] but another boil was appearing from the [illegible] this emergence with repeated [illegible] in putting him to Bombay where [illegible] that he would [illegible]

[illegible]

[illegible] was first seen on 13th Mar[illegible] of the latter medial malleolus [illegible] (fig. 1).



[illegible]

[illegible] Medical [illegible] of the [illegible] of the [illegible] with other [illegible] before 21st April 1950 [illegible] 9 in

[illegible] Unlike the former case this patient did [illegible] diagnosis and the medical officers did not have [illegible]

[illegible] to Hong Kong, he came for the first time [illegible] of continuity though this did not hold [illegible] treated with cold water dressings but at the [illegible] had set in and the ulcer [illegible] appeared [illegible] stasis encouragement via the [illegible] admitted [illegible] when an abscess was noticed and further [illegible] He was discharged [illegible] 25th May 1938 [illegible] company will [illegible] hope that in this [illegible] same effect [illegible] impaired [illegible]

COMMENT

The treatment of R I N native ulcers is often a difficult problem [illegible] a shore base with hospital facilities (albeit very overcrowded) and [illegible] interpreters and is much more so for medical officers afloat who may [illegible] patient on only one brief occasion and be uncertain when he will again [illegible] to attend another medical officer To compensate for these difficulties [illegible] unusual and interesting cases such as these two do appear from time [illegible] and make a welcome change from the more characteristic clinical flotsam [illegible] jetsam which drifts from these ships to the surgeries in H M Dockyard

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A CASE OF ECTHYMA GANGRENOSUM

BY

Surgeon Lieutenant R H BROUGHTON R N

Case History —A pensioner P O S M aged 48

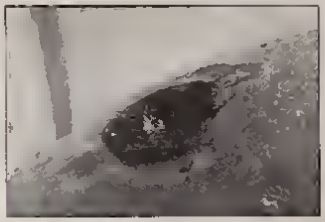
This patient was admitted from H M S *Minerva* with a large punched out [illegible] of the left calf surrounded by an area of inflamed skin in which several [illegible] small bullæ in various stages of pustulation and ulceration

History of Present Condition The ulcer had started as a small blister [illegible] or as an inflamed scald about two weeks previously while he was on leave [illegible] keeping date The blister had been dressed daily with acriflavine but it had [illegible] and it had been covered with flastoplast for the 12 hours Outside [illegible] several small blisters had appeared while the original area had ulcerated [illegible] inflamed

Previous Medical History —He had suffered from this type of lesion [illegible] which is usually precipitated by trauma on many occasions

This last ulcer was in November 1937 when he scratched [illegible] in Grenada in the West Indies and he was admitted to R N Hospital Bermuda for investigation and treatment No improvement was noticed from the [illegible] Kahn was negative and while some Gram positive spore bearing bacilli were [illegible] culture grew *Staphylococcus aureus* and *Diphtheroids* The ulcer [illegible] times fairly large and a raised edge until it was three inches long The [illegible] but the central slough sloughed deeply Healing was very slow and [illegible] he was invalided back to the United Kingdom with a diagnosis of [illegible] and admitted to R N Hospital Chatham in January 1938 By this time it was [illegible] bigger and although the appearance of the ulcer suggested a gumma his serum W R

[illegible]



[illegible]

[illegible]

tamp [illegible] for 1½ minutes daily [illegible] surrounding [illegible] minutes and the ulcer dressed with [illegible] The [illegible] days had come and [illegible] saucer like [illegible] infection became less the [illegible] and the [illegible] at the present time [illegible] only [illegible] remains

DISCUSSION

This latest ulcer was similar to the previous one in [illegible] resistance to treatment Bazin's disease can be excluded for this [illegible] begins on the lower part of the calves posteriorly as a tender nodule in young women of childbirth circulation who may have evidence of tuberculosis elsewhere The staphylococcus and streptococcus seem to be the real offenders on a suitable type of skin which although it appears normal has a low resistance to trauma and secondary infection Andrews & C (1940) report that rothymia is an idiopathic type of streptococcal dermatitis usually affecting the legs being similar to impetigo but more deeply situated The disease begins as a vesicle or a vesico pustule which enlarges ulcerates and forms a thick adherent crust which when removed leaves a sunken shaped ulcer with a raw base and elevated edge The lesions rarely proceed to gangrene and histologically the picture is one of deep inflammation due to pyogenic organisms associated with a pronounced polymorphonuclear infiltration

My thanks are due to Surgeon Rear Admiral K A Ingleby Mackenzie C B K H P B M B Ch M R C S L R C P for his kind permission to publish this article

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A CASE OF ACUTE MONOCYTIC LEUKÆMIA

BY

Surgeon Commander T L CLEAVE, R N

[illegible] day in March 1949 I first saw her in her cold which was the first illness she had had for years [illegible] gradually [illegible] had further upsets in the same way [illegible] on Friday [illegible] was again suffering from a similar [illegible] [illegible] on the 21st April 1951 the patient attended a parade and from that time she started to feel ill [illegible] Shortly complained of pain in the right side [illegible] and the first sign she had such a bad state of the teeth and gums that all the teeth [illegible] extraction [illegible] on the 25th April 1951 After this the patient had had [illegible] after [illegible] extractions there was really little hemorrhage [illegible] the extraction the patient [illegible] a painful inflammation of the side of the jaw [illegible] the right [illegible] persisted and a similar inflammation [illegible] which [illegible]

[illegible] Neither of these indurations [illegible] medical officer [illegible] specialist was sent into [illegible] Malta 5th May [illegible]

[illegible] Hospital Malta 5th May 1951 [illegible] examination rapidly [illegible] showed R.B.C. 2,060,000 W.B.C. [illegible] of which polymorphonuclears [illegible] lymphocytes 38 per [illegible] mononuclears 48 [illegible] physical signs apart from [illegible] glandular swellings (which [illegible] of plasma through the [illegible] occurs in any [illegible] increased [illegible] and pulse [illegible]

[illegible] the anemia [illegible] (1) An [illegible] Circumstantial evidence [illegible] X ray [illegible] form of [illegible]

[illegible] the diagnosis [illegible] the most [illegible] helpful treatment in [illegible] the following [illegible]

(1) [illegible] patient [illegible] was clinically [illegible]

[illegible] and mild [illegible]

[illegible] X ray [illegible] abnormality in [illegible] transfusion and [illegible] the [illegible] a steady rise [illegible] 15th May the R.B.C. [illegible] 98 [illegible] the W.B.C. [illegible] 1951 the R.B.C. [illegible] the W.B.C. [illegible] nations est. [illegible] not [illegible] of the total [illegible] large [illegible] to [illegible] abnormal [illegible] The [illegible] increased [illegible]

[illegible] which further [illegible] 30th May 1951 the R.B.C. [illegible] to [illegible] W.B.C. [illegible] 95,000. [illegible] in his sleep [illegible] June 1951 [illegible] intractable [illegible] The later stages [illegible] (enlarged spleen) [illegible] symptoms [illegible] The [illegible] with the [illegible] permission [illegible] R. A. Trial of Malta O.B.E., K.B.E.

ROYAL NAVAL MEDICAL CLUB

THE 28th Annual and Business Meetings of the Club were held in the Procadero Restaurant on Friday 20th April 1951. Surgeon Rear Admiral A. E. Malone *C.B.* President and Surgeon Vice Admiral Sir Edward Grossen *K.B.E. C.B.* K.H.P. the Medical Director General of the Navy, welcomed members and official and private guests, who numbered 132.

Before dinner which was served in the Empire Suite Members and Guests met old shipmates and renewed old friendships in the Renaissance Room. Grace was said by the Chaplain of the Fleet and after the Loyal Toast the Medical Director General before proposing the toast of "The Club" explained the sad reason for the unavoidable absence of the Second Sea Lord. At the Director's request all present stood in silence in memory of the Officers and Men who lost their lives in H.M.S. *Affray* and in sympathy with their relatives.

The President in reply traced the origin of the Club to a dinner which had been formed under the auspices of Surgeon General Sir James Lane, being a nucleus of medical officers who wished to revive the Naval Medical Supplemental Fund which had been wound up in 1861. It was due to their persistence that the Naval Medical Compassionate Fund was formed by Order in Council in 1915. Reference was made to the good work of the Compassionate Fund and instances of its beneficiaries cited.

The toast of "The Guests" was proposed by Surgeon Commander T. L. S. Coulter who referred to each distinguished guest in an able and humorous speech which was much appreciated. Lord Webb Johnson in a witty reply made kind reference to the Club and to the Compassionate Fund, both of which he advised all eligible officers to join.

After dinner the guests returned to the Renaissance Room where the social activities continued until midnight.

CHAIRMAN

Surgeon Rear Admiral A. L. Malone, *C.B.*, President.

GUESTS OF THE EVENING

The Rt. Hon. Lord Webb Johnson, *K.C.V.O., C.B.E., D.S.O.* (President of the Royal Society of Medicine).
Sir Cecil P. G. Watchey, *K.B.E., C.B.* (President of the Royal College of Surgeons).
Dr. W. Russell Brain (President of the Royal College of Physicians).
Vice Admiral W. R. Slayter, *C.B., D.S.O., D.S.C.* (Admiral Commanding, Reserves).
Sir William Kelsey Fry, *C.B.E., M.C.* (Dean of the Faculty of Dental Surgery of the Royal College of Surgeons).
Ven. Archdeacon Leonard Cubbin, *C.B., K.H.C.* (Deputy Dean of the Fleet).
Captain John Ward, *M.V.O., R.N.*

MEMBER'S GUESTS INCLUDED

The Rt. Hon. Lord Moran, *M.C.*
Air Marshal Sir Philip Livingston, *K.B.E., C.B., V.C.* (Director General, Medical Services, R.A.F.).
Lt. Gen. Sir N. J. Cullen, *K.B.E., C.B., M.C.* (Director General, Army Medical Services).
Professor L. C. Dudds, *M.V.O., F.R.S.*
Sir Daniel Davis, *K.C.V.O.*
Major General J. Wren (Director Army Dental Services).
Air Commodore G. A. Ballintyne, *C.B.E., D.F.C.* (Director of Dental Services, R.A.F.).
Surgeon Rear Admiral Sir Henry White, *K.C.V.O.*

MEMBERS PRESENT

Abercrombie, Surgeon Captain G. I., *R.D.*, K.H.P.
Beach, Surgeon Commander W. A., *O.B.E.*
Brooks, W. D. W., Esq., F.R.C.S.
Brownfield, Surgeon Rear Admiral, *C.B., O.B.E.*
Cassidy, Surgeon Captain F. I., *R.D.*
Clift, Surgeon Lieutenant J. M.
Colborne, Surgeon Rear Admiral W. J., *C.B.*, K.H.S.
Colson, Surgeon Vice Admiral Sir Henry, *K.C.B., C.B.E.*
Coulter, Surgeon Commander T. L. S., *D.S.C.*
Crosby, Surgeon Captain J. H. B.
Cross, A. C., Esq., F.R.C.S.
Dixon, Surgeon Captain F. N., *C.B.E.*
Duncan, Surgeon Captain D., *O.B.E.*
Donaldson, Dr. W. D.
Eccles, Dr. C. Y.

Finnigan Surgeon Captain (D) C
Forrest Surgeon Commander (D) W I N
Gent Surgeon Commander J C
Glass Dr R L
Gordon Taylor Sir Gordon *K B E C B*
Graham Hodgson Sir Harold *K C I O*
Greeson Surgeon Vice Admiral Sir Edward *K B E C B* K H P (Medical Director General)
Gillett Surgeon Rear Admiral C V *C B C B E D S O*
Gore Surgeon Commander D P
Hamilton Surgeon Captain J *C B E*
Hamilton Surgeon Commander W H M
Harrison Surgeon Commander G L
Hall Surgeon Captain A H
Harkness A H Esq I R C S
Hall Surgeon Captain G T
Hall Surgeon Commander J M
Hickey Surgeon Captain W A *O B E*
Hill Surgeon Rear Admiral H R B *C B*
Hill Surgeon Rear Admiral F G *B E* K H P
Hill Surgeon Captain (D) I
Hill Dr W
Jones Surgeon Commander H
Jones Surgeon Commander S
Jones Surgeon Captain A W
Jones Surgeon Captain D H
Jones Surgeon Commander
Jones Surgeon Commander J
McCrack Surgeon Lieutenant Commander C T
McGill Surgeon Captain G *O B E I D*
McGregor Surgeon Lieutenant Commander H W
McIntosh Surgeon Captain W P I
McKenzie Surgeon Rear Admiral K A I *C B* K H I
McRoue Surgeon Captain A W
Mallinson Surgeon Lieut Bt
Martin Surgeon Commander I C I *V R D*
May Surgeon Captain R C *O B E M C*
Maxwell Surgeon Rear Admiral J A *C B C I I C K I*
Meiklejohn Surgeon Rear Admiral N S *D S O*
Moules Surgeon Commander (D) L A
Mountain Surgeon Commander (D) W L
Moyon Browne Surgeon Captain F
Murray Surgeon Captain W H
Musson Surgeon Captain R W *C B L*
Nicholson Surgeon Commander *C P*
Oldham Surgeon Captain J B I *R D*
Panckridge Surgeon Commander W R S
Place Surgeon Captain (D) J F *O B E*
Pollard Surgeon Captain L B
Proctor Surgeon Captain R L G
Quinn Surgeon Captain F B
Ramshaw Surgeon Captain S G
Robinson Thomas Surgeon Captain V I *R D*
Rogers Surgeon Captain L C *V R D*
Ronaldson Surgeon Captain J R *O B E I R D*
Ross Surgeon Commander M G
Rowlands Sir Wm *A B E*
Rudd Surgeon Captain I I S
Stock Perkins Surgeon Commander D D
Stratford Dr M
Stringell Surgeon Rear Admiral I I *C B* K H P
Turnbull Surgeon Commander I A
Vaughan Jackson Surgeon Lieutenant Commander O J
Vickery Surgeon Captain C L *O B E*
Walsh Surgeon Commander D T
Walsh Surgeon Captain G D
Walsh Surgeon Captain V I
Walker Surgeon Lieutenant Commander J W *O B E*
Watt Surgeon Lieutenant Commander F C *D S C*
Webb Surgeon Captain S G
Willan Surgeon Rear Admiral R J *C B E M I O V R D*
Wheatcroft Surgeon Lieutenant-Commander S M
Williams Surgeon Captain (D) I R I *C B E*
Williamson Noble F A Esq I R C S
Willoughby Surgeon Captain H I *R D*
Wills Surgeon Lieutenant Commander H R I

Reviews

[illegible] World Health Organization [illegible]

[illegible] malaria [illegible]

The [illegible]

[illegible] campaigns [illegible] the malaria [illegible] can only be [illegible] campaign started [illegible] detailed [illegible]

Two other [illegible] in most cases [illegible] side effects [illegible] for example [illegible] and filarias [illegible]

One [illegible] workers [illegible] the Argentine [illegible] less the [illegible] resulted [illegible] those [illegible]

APPLIED ANATOMY [illegible] Certificate [illegible] Free Hospital [illegible] Hospital [illegible] Medical School [illegible] St Thomas's Hospital [illegible] Hospital [illegible]

[illegible] words [illegible]

Miss [illegible] J. [illegible] and Dr R. [illegible] Applied Anatomy [illegible]

It is a book [illegible] excellent illustrations [illegible] light and [illegible] on page 184 [illegible] position or action [illegible] illustrated with [illegible]

It is a pity that the [illegible]

and [illegible] to the back. [illegible] on Medicine [illegible] Nurses. They do not [illegible]

Nevertheless the book made me feel that [illegible] physiology would have been greatly eased [illegible]

Doctors by Themselves. Compiled by [illegible]. pp. 331. London: Cassell & Co. Ltd. Price [illegible]

When one picks up a new anthology of this [illegible] a collection of the more familiar sayings of a select [illegible] eminent poets or others. In Doctors by Themselves [illegible] this pitfall and has brought forth [illegible] thoughts and deeds from the whole [illegible]

This anthology is divided into five parts [illegible] on humanity in general [illegible] Amongst these there must be extracts [illegible] reads this book and whether he likes it [illegible]

[illegible]

The publishers must be [illegible] general excellence shown in the publication.

[illegible] Activity [illegible] Nervous System. By [illegible] A. B. [illegible] B.Sc. [illegible] First Edition 1951. pp. [illegible] London [illegible] Price 25s. 0d.

This book is set as a textbook for students [illegible] scientist are [illegible] range of physiology [illegible] the publishing [illegible] diplomas. It is all [illegible] book generously [illegible] bibliography [illegible] for them [illegible] except for [illegible] the nervous [illegible] the authors [illegible] good [illegible] suitably [illegible]

[illegible] Surgery. By R. M. Handfield-Jones, M.C., M.S., F.R.C.S., and Sir Arthur E. Porritt, K.C.M.G., C.B.E., M.A., M.Ch., F.R.C.S. [illegible] Edition. 1951. Pp. [illegible] with [illegible] Edinburgh: E. & S. Livingstone Ltd. Price 55s. 0d.

[illegible] goes from strength to strength in [illegible]

[illegible]

[illegible]

[illegible]

[illegible] discipline combined [illegible]

The g[illegible] to the [illegible] in 1588 [illegible] establish[illegible] Chest in 15[illegible] foundation of Greenwich Hospital [illegible] seventeenth [illegible] 1696 [illegible] Act for Encourag[illegible] the Navy [illegible] reasons of [illegible] to care for themselves [illegible] Commonwealth [illegible] of naval seamen [illegible] in effect compulsory [illegible] at American merch[illegible] until the Social Security Act [illegible] hundred and fifty years.

[illegible] the Marine Hosp[illegible] from the seaman's wages [illegible] to their own [illegible] so that the [illegible] handled.

[illegible] abuses of the [illegible] Marine Hospital [illegible] of individual [illegible] set up [illegible] Treasury. The first [illegible] Woodworth [illegible] posts than the [illegible] health officer.

[illegible] 1878 [illegible] Woodworth [illegible] States [illegible] stalled at birth. The [illegible] of a Board of Health [illegible] From the first the Board was [illegible] 1883 [illegible] refused to manage the [illegible] the remarks of one Joseph [illegible] of the insolent [illegible] system of espionage and [illegible] 1884 of the Federal Govern[illegible] The functions of the latter [illegible] public health [illegible] the States had come [illegible] health problems. The

[illegible] the one organization [illegible] its capital [illegible] general recognition [illegible] by the [illegible] report [illegible] Service [illegible] department [illegible] in [illegible] Public Health [illegible] Health Service.

The point [illegible] the Health Service [illegible] until with the [illegible] of initiating [illegible] traditional [illegible] to the Federal Service.

Finally, in [illegible] has altered [illegible] National Institute [illegible] Services. In [illegible] Hospital Service [illegible] were) [illegible] the Bureau of [illegible]

In the last chapter [illegible] as to the [illegible] development [illegible] and other [illegible] medical service [illegible] services [illegible] finally discussed [illegible] grammes [illegible] American [illegible]

In the [illegible] health officers and [illegible] process [illegible] familiar [illegible]

[illegible]

[illegible] CLARKE [illegible]
First Edition [illegible] 8vo [illegible]
Livingstone [illegible]

The [illegible] story [illegible] practical [illegible] dealing with [illegible]

There [illegible] disappointing [illegible]

Though [illegible] repetitive [illegible]

This is [illegible] references [illegible]

[illegible] and the real [illegible] practical [illegible]

Orthopaedic Nursing. By Miss [illegible] and Miss P. Forbes [illegible]
Watson Jones, B.S., M.Ch., [illegible] First Edition. 400 and [illegible]
Edinburgh: E. & S. Livingstone [illegible]

This book [illegible] of Orthopaedic [illegible] to the student nurse [illegible] make.

Miss Powell [illegible] to the Robert Jones and Agnes Hunt Orthopaedic Hospital [illegible] recent revisal the [illegible]

Agnes H[illegible] and has done this so well that the volume must surely remain the [illegible] work on orthopaedic nursing for years to come.

The book is comprehensive. Early chapters deal with general principles, physiology in relation to orthopaedics, plaster of Paris technique, splints and appliances. Then chapters are devoted to deformities, congenital and acquired, and one-quarter of the book to bone and joint tuberculosis. As might be expected, this section is especially good, and exact and detailed instructions in the nursing and handling of these long term cases are clearly and concisely given. The latter half of the book deals, amongst other conditions, with osteomyelitis, pyogenic arthritis, chronic arthritis and rheumatism in its various forms, scoliosis and poliomyelitis, and a fine chapter section on bone and joint injuries.

A final chapter on after-care by Miss Mona Williams gives a realistic account of the work carried out in after-care clinics and the difficulties that have to be overcome.

Each orthopaedic condition dealt with commences with a general description and pathology, followed by symptoms and signs, the aims of treatment, and treatment, conservative and operative. Then follows the detailed nursing care. It takes [illegible] to stress the most important points of nursing, and every so often bold black print [illegible] a particularly vital lesson.

The book is well up to date with the latest methods of treatment, and the only fault to be found was the statement that cases of traumatic paraplegia are immobilized in plaster beds. This treatment is [illegible] condemned at spinal injury centres.

The illustrations and photographs are profuse and descriptive, and the whole setting of the book makes for easy reading and understanding.

This book is really excellent. It is strongly recommended as a textbook on orthopaedic nursing.

SEROLOGY WITH LIPID ANTIGEN. By Reuben L. Kahn, M.S., D.Sc., Chief of Serology Laboratory, University of Michigan Hospital; Consultant in Serology, U.S. Naval Medical School, etc. [illegible] 1950. Pp. [illegible]. London: Baillière, Tindall and Cox. Price 40s. 6d.

This new book by one of the world's foremost authorities on the serology of syphilis is the successor to his original work "Serum Diagnosis of Syphilis by Precipitation", which is 19 years old. [illegible] the past quarter century and the nature of such precipitation reactions and the reasons for the occasional occurrence of what he calls "biologic false positives" and false negatives.

The book [illegible] the responsibility of those who perform and interpret serologic tests for syphilis [illegible] should be read in full [illegible] as well as by the laboratory. [illegible]

[illegible] serum [illegible] and even from animals [illegible] action [illegible] which gives a [illegible] pattern for each of the [illegible] status [illegible] many other conditions also. It may be of help in establishing [illegible] in cases of doubt [illegible] the laboratory has almost unlimited time and materials at its disposal. But as he says in his final chapter, "Extensive studies of the universal reaction in health and in various diseases must be carried out before its value in immunity and in disease will be fully established."

In other chapters he writes: "Our efforts to devise a practical verification procedure have led us to develop and study a number of different techniques but we have found

[illegible] in the serodiagnosis [illegible] number of [illegible] reactions in the presen[illegible] certain [illegible] reaction [illegible] the absence [illegible] reaction [illegible] eliminate the possibility [illegible]

This [illegible]

Though [illegible]

[illegible] By [illegible] 1951 [illegible]

[illegible]

With the [illegible] early chapter [illegible] Western Medi[illegible] [illegible] the [illegible] the [illegible] surgery and [illegible] grew as a result [illegible] are described [illegible]

The [illegible] of Miss Florence Nightingale [illegible] romantic [illegible] herself [illegible] efficiency in [illegible] of nursing [illegible] today. The third p[illegible] and their subsequent [illegible] nursing in the [illegible] national [illegible] the Second World War [illegible] The general reader [illegible] early parts [illegible] they will prove [illegible]

The scope is [illegible] and yet give [illegible] the limitations [illegible] described and not the [illegible]

[illegible] textbooks give St. [illegible] orders which [illegible] St. [illegible] pts this interpretation [illegible] our curta lest as [illegible] have [illegible] [illegible] Mother [illegible] Acquila. The [illegible] pets lie [illegible]

[illegible] by St. [illegible] W. [illegible] *Ill.* [illegible] RAGS [illegible] Kegan Paul [illegible] Splital [illegible] illustrations [illegible]

[illegible] popular [illegible] W. [illegible]

[illegible]

[illegible]

[illegible] pets of [illegible] But lo [illegible] of certain [illegible] wrapped [illegible] the index is [illegible]

[illegible] Medical [illegible] Physician in charge [illegible] Medical Officer [illegible] Marie H. M.B., B.S. [illegible] M.R.C.P. Royal Infirmary [illegible] 1951 [illegible] 217 [illegible] 12 [illegible]

[illegible]

[illegible]

INDUSTRIAL SURGERY REGISTRY [illegible] Report [illegible] No. 41 1951 [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

ANTICOAGULANTS [illegible] Medical [illegible] Kessel [illegible] M.D. [illegible]

[illegible]

[illegible] R.C.P. [illegible] pulmonary [illegible] Barlow [illegible] stalemate [illegible] human [illegible] of this [illegible] Laboratory Research [illegible] pulmonary tuberculosis.

Another day was [illegible] Beryllium were [illegible] Chemical compounds [illegible] centred around the M.R.C. [illegible] and the environment at [illegible]

Another day led to the [illegible] by laboratory slides. [illegible] to the individual. All [illegible] knowledge of the subjects

[illegible]

◆

News of the Service

OBITUARY

[illegible]

[illegible]

[illegible]

[illegible]

Surgeon [illegible] H. L. H. R. R.N. (Rtd.) died on 30th August 1951. He was born in November 1885, joined in 1907 and entered the R.N. Medical Service as Surgeon in November [illegible]. He was promoted to Lieutenant-Commander in [illegible] Surgeon Commander [illegible] and was placed on the Retired List at own request on 12th April 1923.

During the Great War he served as Surgeon Commander (retired) in H.M. Ships *Hawke*, *Ophir* and *Bristol*.

HONOURS AND AWARDS

King's Honours: Dental Surgeon

Surgeon Captain H. B. Osborne, L.D.S., R.N.

Officer of the Order of the British Empire

Surgeon Commander (D) W. Holgate, L.D.S., R.N.

Acting, Interim Surgeon Commander W. M. Davidson, M.B., B.Ch., R.N.

Member of the Order of the British Empire

Temporary Acting, Sub-Commissioned Warrant Officer W. J. H. May.

Mentioned in Despatches (Posthumous)

Surgeon Lieutenant-Commander H. V. Knock, M.B., B.S., R.N.

PROMOTIONS

[illegible] to Surgeon Rear Admiral

[illegible] Captain J. Hamilton, *C.B.E.*, M.B., Ch.B.

[illegible] to Surgeon Captain

Surgeon Commander C. B. Nicholson, R.N.

[illegible] to Surgeon Commander

Acting, Interim Surgeon Commanders C. C. Denny, R. M. Laifa, W. H. F. McKee, J. J. Meynell, W. S. Miller, J. R. Norsworthy, B. Ridgeway, I. A. Turnbull.

[illegible] to Surgeon Commander (D)

Acting, Interim Lieutenant-Commanders (D) I. C. Jones, T. B. Mackenzie.

[illegible] to Acting, Interim Surgeon Commander

Lieutenant-Commanders W. J. Cranley, E. S. Elliott, K. G. O. Gordon, J. A. Ivin, A. W. W. Robinson, J. K. Salmond, J. C. Wyatt, *O.B.E.*

[illegible] to Surgeon Lieutenant-Commander

Acting, Interim Surgeon Lieutenant-Commanders J. M. Hanson, A. P. M. Nicol, J. W. Sutherland, J. S. Woolf.

[illegible] to Surgeon Lieutenant-Commander (D)

Acting, Interim Surgeon Lieutenant-Commanders (D) F. B. C. Cliff, T. Murray, J. N. Thistle, T. T. Reid.

[illegible] to Acting, Interim Surgeon Lieutenant-Commander

Lieutenants I. C. Barras, D. C. G. Bell (Lieutenant), J. Keeling, T. A. [illegible], I. A. I. Mackenzie.

[illegible] to Acting, Interim Surgeon Lieutenant-Commander (D)

Surgeon [illegible] (D) R. Montgomery, J. J. D. Shanks (Lieutenant), G. K. Wray.

TRANSFERS TO PERMANENT LIST

Lieutenant-Commander R. W. B. Scott, R.N.V.R., Surgeon Lieutenant [illegible] H. D. Stubb, R.N.V.R., Surgeon Lieutenant-Commander J. H. D. Taylor.

ENTERED FOR SHORT SERVICE COMMISSIONS

R M Butler M B Ch B J D Crippin M D Ch B W G Holland M B B S M R C S L R C P I Mackay M B Ch B R A Mitchell M B Ch B A C Montfort M B B S M R C S L R C P I W Ruggles M B B S M R C S L R C P W J A H Turner M R C S L R C P B Waters M R C S L R C P W B Wright M B Ch B J K Colville L D S T C Green B D S J G Elliott B D S L R Higgins L D S

RETIREMENTS

Surgeon Rear Admiral L E Strugnell C B M B B S M R C S L R C P K H I
Surgeon Captain L B Dunn Acting Interim Surgeon Commander M M J Enright
Acting Interim Surgeon Captain (Ret) R W C Lancashire Acting Surgeon Lieutenant J G Bauer

WARDMASTER OFFICERS

PROMOTIONS

Promoted to Acting Commissioned Wardmaster
T Moore A L Walker

RETIREMENTS

Senior Commissioned Wardmasters W J Page A A Spooner B Treeby

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Notice

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